Naval Facilities Engineering Command Southwest
Contracts Department
1220 Pacific Highway, Building 127, Room 112
San Diego, California 92132-5190

CONTRACT NO. N68711-04-D-1104
CTO NO. 0004

FINAL

GROUNDWATER SAMPLING REPORT AND REQUEST FOR CLOSURE, UST SITE 14125

Revision 0
November 7, 2005

MARINE CORPS BASE
CAMP PENDLETON, CALIFORNIA

DCN: SES-TECH-06-0002

Prepared by:

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ABBREVIATIONS AND ACRONYMS

BTEX	benzene, toluene, ethylbenzene, and total xylenes
DEH	Department of Environmental Health
EPA	U.S. Environmental Protection Agency
LCS	laboratory control sample
LCSD	laboratory control sample duplicate
MCB	Marine Corps Base
mg/L	milligrams per liter
µg/L	micrograms per liter
MS	matrix spike
MSD	matrix spike duplicate
MTBE	methyl tert-butyl ether
PAH	polynuclear aromatic hydrocarbon
QC	quality control
RL	reporting limit
RPD	relative percent difference
TPH-d	total petroleum hydrocarbons quantified as diesel
TPH-g	total petroleum hydrocarbons quantified as gasoline
TtEC	Tetra Tech EC, Inc.
UST	Underground Storage Tank
VOC	volatile organic compound
WB	California Water Board
WQO	water quality objective

1.0 INTRODUCTION

This Groundwater Sampling Report, prepared by SES-TECH, a joint venture between Sealaska Environmental Services LLC and Tetra Tech EC, Inc. (TtEC), presents the results of groundwater sampling completed in September 2005 at Underground Storage Tank (UST) Site 14125, Marine Corps Base (MCB) Camp Pendleton, California (Figure 1-1). This groundwater sampling event was conducted in response to a request from the California Water Board (WB) in a letter dated February 25, 2005 (SMC:50-3357.05:peurp) to conduct two additional rounds of groundwater sampling at the site. This report presents the results from the second of the two requested additional groundwater sampling events and requests site closure. The groundwater monitoring and associated reporting activities were performed under Contract No. N68711-04-D-1104, Contract Task Order No. 0004, for the U.S. Department of the Navy, Naval Facilities Engineering Command Southwest.

1.1 SCOPE OF WORK

Groundwater sampling at UST Site 14125 included measuring water levels, collecting groundwater samples, and conducting analysis. During the September 2005 monitoring event, all wells were sampled using low-flow sampling techniques, and, pursuant to the WB's request in the February 25, 2005 letter, the samples were analyzed for total petroleum hydrocarbons quantified as gasoline (TPH-g); total petroleum hydrocarbons quantified as diesel (TPH-d); benzene, toluene, ethylbenzene, and total xylenes (BTEX); methyl tert-butyl ether (MTBE); and polynuclear aromatic hydrocarbons (PAHs).

1.2 SITE IDENTIFICATION

Site identification data:

Site Address:	Building 14125, 14 Area, MCB Camp Pendleton
Facility Name:	Offices of the 12 and 14 Area Guard
DEH Case No.:	H05939-265
RWQCB Case No.:	9UT3357
Responsible Party:	United States Marine Corps
Contact Person:	Mr. Chet Storrs, Remediation Branch Manager Assistant Chief of Staff, Environmental Security Building 22165, Box 555008 MCB Camp Pendleton, California 92055-5008 (760) 725-9774

2.0 GROUNDWATER SAMPLING

The following sections summarize the September 2005 groundwater sampling activities conducted at UST Site 14125.

2.1 WATER LEVEL MEASUREMENTS

Prior to groundwater sampling, the depth to water and the total well depth for each well were measured and recorded on a well sampling log (Appendix A). The depths were measured from the top of the well casing. Table 2-1 provides a summary of the groundwater elevation data. A groundwater elevation contour map (Figure 2-1) was prepared based on the most recent recorded water levels.

2.2 SAMPLING METHODOLOGY

On September 7, 2005, all monitoring wells (MW1, MW2, and MW3) were sampled using low-flow sampling methodology.

Before sampling, a bladder pump was slowly lowered into each well and positioned near the center of the screen interval. In addition, a water level indicator was placed at the water surface to monitor water-level drawdown during purging. While purging at the lowest operational setting of the pump, which was approximately 70 to 100 milliliters per minute, the water level surface began to drop and exceeded the minimum drawdown requirement of 0.33 feet at wells MW1 and MW3. The drop in water level is likely attributed to the low transmissivity of the aquifer materials.

Because a stabilized water level could not be achieved, even at very low pumping rates, a passive, or minimum, purge sampling method was performed following the methodology presented in a U.S. Environmental Protection Agency (EPA) Groundwater Issue paper titled *Low Flow (Minimal Drawdown) Ground-Water Sampling Procedures* (Puls and Barcelona, 1996). The passive/minimal purge approach requires the removal of a minimum of three volumes of the sampling system from each well. The liquid volume of the sampling system consists of the volume of the pump's bladder, discharge tubing, and flow-through cell attached to the water quality meter. After purging the required volume at the lowest flow rate achievable for each well, a groundwater sample was collected. To monitor groundwater conditions during purging, water-quality parameters were measured as follows: temperature, pH, electrical conductivity, turbidity, dissolved oxygen, and oxygen/reduction potential. These measurements were recorded on the well sampling logs provided in Appendix A. All non-disposable downhole equipment, such as the pump and water-level indicator, were decontaminated between wells.

Groundwater samples were collected through new dedicated polyethylene discharge tubing, which was connected to the bladder pump. Each sample was collected in the appropriate

containers, labeled, and placed in a cooler with ice immediately after sample collection for delivery to the analytical laboratory.

2.3 SAMPLE ANALYSES

Groundwater samples were sent to EMAX Laboratories for analysis of TPH-g and TPH-d using EPA Method 8015B, analysis of BTEX and MTBE by EPA Method 8021B, and analysis of PAHs by EPA Method 8270C.

2.4 WASTE MANAGEMENT

All equipment decontamination water and groundwater generated from well purging and sampling were temporarily contained in a polyethylene tank at the site and later transferred to a liquid storage tank located at the project trailer (21 Area, MCB Camp Pendleton). The tank was closed, marked, labeled, and located to minimize traffic hazards and discourage tampering. The wastewater was transported off site for disposal at a waste-permitted facility. The handling, management, transportation, and disposal of wastewater were conducted in accordance with state and federal laws and regulations. No wastes were stored at the site for more than 60 days. A copy of the waste manifest is provided in Appendix B.

3.0 GROUNDWATER MONITORING RESULTS

Groundwater flow and analytical results from the September 2005 sampling event are discussed in the following subsections.

3.1 GROUNDWATER FLOW DIRECTION

Groundwater elevations measured in September 2005 are presented in Table 2-1 and contoured on Figure 2-1. As shown on Table 2-1, the depth to groundwater at the site ranged from 5.56 feet to 7.97 feet. Based on water levels measured in September 2005, groundwater flowed toward the southwest with an approximate gradient of 0.03 feet per foot.

3.2 ANALYTICAL RESULTS

A total of six samples (including a field duplicate, a trip blank, and an equipment rinsate sample) were collected during the September 2005 event and sent to EMAX Laboratories for analysis. The analytical results were successfully uploaded to the WB Geotracker database (Confirmation No. 7964980661). Groundwater sampling results are summarized below and presented in Table 3-1 and Figure 2-1.

TPH-g, MTBE, and PAHs were not detected in any of the monitoring wells.

TPH-d was detected in well MW1, located near the former tank cavity, at a concentration of 13 milligrams per liter (mg/L); however, the laboratory reported that the chromatogram displayed a motor-oil like fuel pattern. TPH-d was not detected in the other two wells.

Benzene, ethylbenzene, and total xylenes were detected in well MW1 at concentrations of 1.9 micrograms per liter (μg/L), 0.92 μg/L, and 1.1 μg/L, respectively. BTEX was not detected in wells MW2 or MW3.

Copies of the analytical laboratory report and chain-of-custody form are provided in Appendix C.

4.0 QUALITY ASSURANCE AND QUALITY CONTROL

All groundwater samples were collected and preserved in accordance with the *San Diego County Department of Environmental Health (DEH) Site Assessment and Mitigation Manual 2005* (DEH, 2005), and were delivered to the analytical laboratory within 24 hours of sample collection by a laboratory courier and analyzed within the method-specified analytical holding times. EMAX Laboratories, Inc., a state of California-certified and Naval Facility Engineering Service Center-evaluated laboratory, performed sample analyses.

One field duplicate sample pair was collected from monitoring well MW2. The relative percent difference could not be determined between the duplicate samples because no target analyte was detected in either sample.

To assess potential cross-contamination of BTEX and MTBE during sample transport, one set of trip blank samples (identified as 0004-034) was sent along with groundwater samples to the laboratory and analyzed for BTEX and MTBE. In addition, one equipment rinsate sample was collected (identified as 0004-035) to assess potential cross-contamination of BTEX, MTBE, TPH-g, TPH-d, and PAHs from equipment used for sampling. Detectable levels of target analytes were not reported above half the project reporting limits (RLs) in either the trip blank or the equipment rinsate sample indicating the effectiveness of the sample transportation and decontamination procedures during this sampling event.

In accordance with analytical method specifications, method blanks, surrogate spikes, laboratory control samples (LCSs), and LCS duplicates (LCSDs) were analyzed to assess method accuracy and precision. A set of matrix spike (MS) and matrix spike duplicate (MSD) samples (0004-036) was also provided to the laboratory for all analyses during this sampling event.

No detectable levels of target analytes were found in the method blanks during this event. Percent recoveries in LCS, LCSD, MS, MSD, and surrogates, including relative percent differences (RPDs) between the spiked duplicates, were well within the project-specified quality control (QC) acceptance limits with one exception. The surrogate recovery in one of the field samples exceeded acceptance criterion. However, an alternative surrogate and surrogates in method blank, LCS, LCSD, MS, and MSD fell within the acceptance windows indicating that method was in control and that this condition was due to matrix interference.

A third-party validation company, Laboratory Data Consultants, Inc., located in Carlsbad, California, performed EPA Level III/IV validation of analytical data. For this sampling event, one sample was validated according to the EPA Level IV protocol, and five samples (including field QC samples) were validated according to the EPA Level III protocol. The validation reported that all of the applicable validation criteria were met for all samples.

5.0 SUMMARY AND REQUEST FOR CLOSURE

After reviewing the Site Assessment Report (SOTA Environmental Technologies, 2001), the WB requested (in a letter dated February 25, 2005, reference: SMC:50-3357.05:peurp) two additional rounds of groundwater sampling be performed within 3 months of each other to see if groundwater quality had changed since the site assessment was completed. Pursuant to the WB's request, the two groundwater sampling events have been completed; one was completed in June 2005 (SES-TECH, 2005), and the second was completed in September 2005 (described in this report).

The analytical results for both the June 2005 and the September 2005 groundwater sampling events were successfully uploaded to the WB Geotracker database (Confirmation Nos. 1636561691 and 7964980661). Based on water level measurements recorded during the June and September events, groundwater beneath the site flowed toward the south and southwest, respectively, at a gradient of approximately 0.03 feet per foot.

Analytical results from the most recent sampling event, September 2005, indicate that TPH-d and benzene are present in well MW1, located in the former tank cavity, at levels above their respective water quality objectives (WQOs). The laboratory indicated that the TPH-d (reported at 13 mg/L) had a motor oil-like pattern on the chromatogram, suggesting only the relatively heavy carbon chain compounds typically found in diesel remain in groundwater. Benzene was detected at a concentration of 1.9 μg/L (WQO is 1.0 μg/L). Low levels of ethylbenzene and total xylenes were also reported in well MW1. No contaminants were detected in the other wells on site, MW2 and MW3.

During the Site Assessment completed in 1998, four compounds were reported in groundwater above WQOs, and another 18 compounds [12 volatile organic compounds (VOCs), and six PAHs] were detected at relatively low levels (SOTA, 2001). The compounds above WQOs were detected in well MW1, located in the former tank cavity, and included TPH-d at 15 mg/L, benzene at 8 μg/L, MTBE at 19 μg/L, and TPH-g at 0.99 mg/L. Since 1998 when the Site Assessment was completed, the number of contaminants detected, and the overall groundwater contaminant levels, have significantly decreased. In September 2005, only two compounds were detected above WQOs, and only two other compounds (two VOCs and no PAHs) were detected at relatively low levels. The compounds detected above WQOs in September 2005 included benzene at 1.9 μg/L (previously detected at 8 μg/L), and TPH-d at 13 mg/L, (previously detected at 15 mg/L). There was only a slight decrease in TPH-d concentration; however, the TPH-d recently detected had a motor oil-like pattern on the chromatogram, suggesting only the relatively heavy carbon chain compounds typically found in diesel remain. This is commonly the case when biodegradation is occurring, as lighter compounds are preferentially degraded. The TPH-g and MTBE reported in groundwater above WQOs in 1998 were not detected in groundwater during the recent sampling events, and only two of the other 18 contaminants

detected in 1998 were detected in September 2005. Overall, the number of contaminants, and the contaminant concentrations, in groundwater have significantly decreased since 1998.

In summary, the two groundwater sampling events, requested by the WB to see if groundwater quality had changed since the Site Assessment was completed in 1998, were completed in June 2005 and September 2005. Data indicate the number of contaminants, and contaminant concentrations, in groundwater have decreased significantly. Therefore, based on the long-term decreasing levels of contaminants in groundwater, suggesting that natural attenuation is actively occurring and potential soil contamination is not impacting groundwater to any significant extent, site closure with no further action is requested for UST Site 14125. It is inherent in this request that the natural attenuation of contaminants will continue.

6.0 REFERENCES

Puls R. and M.J. Barcelona. 1996. *Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures.* April.

San Diego County Department of Environmental Health, Land and Water Quality Division (DEH). 2005. *San Diego County Site Assessment and Mitigation Manual 2005*.

SES-TECH. 2005. *Final Groundwater Sampling Report, Underground Storage Tank site 14125, MCB Camp Pendleton.* July.

SOTA Environmental Technology. 2001. *Final Site Assessment Report, UST Site 14125, MCB Camp Pendleton, CA.* April.

TABLES

TABLE 2-1

SUMMARY OF WATER LEVEL ELEVATIONS
UST SITE 14125, MCB CAMP PENDLETON, CA

Monitoring Well ID	Well Screen Interval (feet btoc)	Reference Point (toc) Elevation (feet amsl)	Date Measured	Depth to Water (feet btoc)	Groundwater Elevation (feet amsl)
MW1	5-20	304.41	1-Dec-98	9.99	294.42
			11-Feb-03	11.53	292.88
			7-Jun-05	7.05	297.36
			6-Sep-05	7.97	296.44
MW2	0-15	304.22	1-Dec-98	9.55	294.67
			11-Feb-03	11.57	292.65
			7-Jun-05	7.63	296.59
			6-Sep-05	7.06	297.16
MW3	0-15	304.10	1-Dec-98	9.43	294.67
			11-Feb-03	10.56	293.54
			7-Jun-05	6.80	297.30
			6-Sep-05	5.56	298.54

Notes:

amsl- above mean sea level
btoc- below top of casing
MCB- Marine Corps Base
toc- top of casing
UST- Underground Storage Tank

TABLE 3-1

SUMMARY OF GROUNDWATER SAMPLING RESULTS
UST SITE 14125, MCB CAMP PENDLETON, CA

Well ID	Date Sampled	Sample ID	VOCs																			PAHs						
			TPH-g	TPH-d	TPH-Motor Oil	Benzene	Toluene	Ethylbenzene	Xylenes (total)	MTBE	N-Butylbenzene	Bromodichloromethane	Chlorodibromomethane	Isopropylbenzene	p-Isopropyltoluene	Naphthalene	N-propylbenzene	Tetrachloroethene	Trichloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Acenaphthene	Fluorene	Anthracene	Benz(a)anthracene	Chrysene	Naphthalene	Phenanthrene
			mg/L	mg/L	mg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Water Quality Objectives			0.005	0.1	(2)	1	150	680	1750	13(1)	NA	100	100	NA	NA	17	NA	5	5	NA	NA	(2)	(2)	(2)	(2)	(2)	17	(2)
MW1	1-Dec-98	MW14125-1	**0.99**	**15**	2	**8**	5J	7	17	**19**	2J	--	--	2J	2J	15	3J	0.9J	2J	10	3J	--	--	0.1J	0.03J	0.02J	13	0.5J
	8-Jun-05	0004-029	**0.066**	**9.1**(3)	NA	**1.1**	0.44J	2.1	0.66J	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.61J	1.1J	--	--	--	--	--
	7-Sep-05	0004-039	--	**13**(3)	NA	**1.9**	--	0.92	1.1J	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--
MW2	1-Dec-98	MW14125-2	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.3J	--	--	--	--	0.2J
	8-Jun-05	0004-033	--	0.049J(3)	NA	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--
	7-Sep-05	0004-037	--	--	NA	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--
	7-Sep-05	0004-038 (Dup)	--	--	NA	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--
MW3	1-Dec-98	MW14125-3	NA	--	--	--	--	--	--	--	--	1J	2J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	8-Jun-05	0004-031	--	--	NA	--	0.58	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--
	8-Jun-05	0004-032 (Dup)	--	--	NA	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--
	7-Sep-05	0004-036	--	--	NA	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--	--	--

Notes:

Bold values exceed listed WQO

(1) - California DHS proposed primary MCL

(2) - No established WQO

(3) - Laboratory reported a motor-oil like pattern on chromatogram

-- - Not detected above project reporting limits

µg/L - micrograms per liter

Dup - field duplicate sample

J - laboratory estimated value

MCB - Marine Corps Base

MCL - Maximum Contaminant Level

mg/L - milligrams per liter

MTBE - methyl tert-butyl ether

NA - not analyzed

PAHs - polynuclear aromatic hydrocarbons

TPH-d - total petroleum hydrocarbons quantified as diesel

TPH-g - total petroleum hydrocarbons quantified as gasoline (EPA Method 8015B)

TPH-motor oil - total petroleum hydrocarbons quantified as motor oil

UST- Underground Storage Tank

VOCs - Volatile Organic Compounds

FIGURES

DRAWN BY: MD	CHECKED BY: TTK	APPROVED BY: MC	DCN: SES-TECH-05-0094	DRAWING NO: 05009411.DWG
DATE: 07/01/05	REV: REVISION 0		CTO: #004	

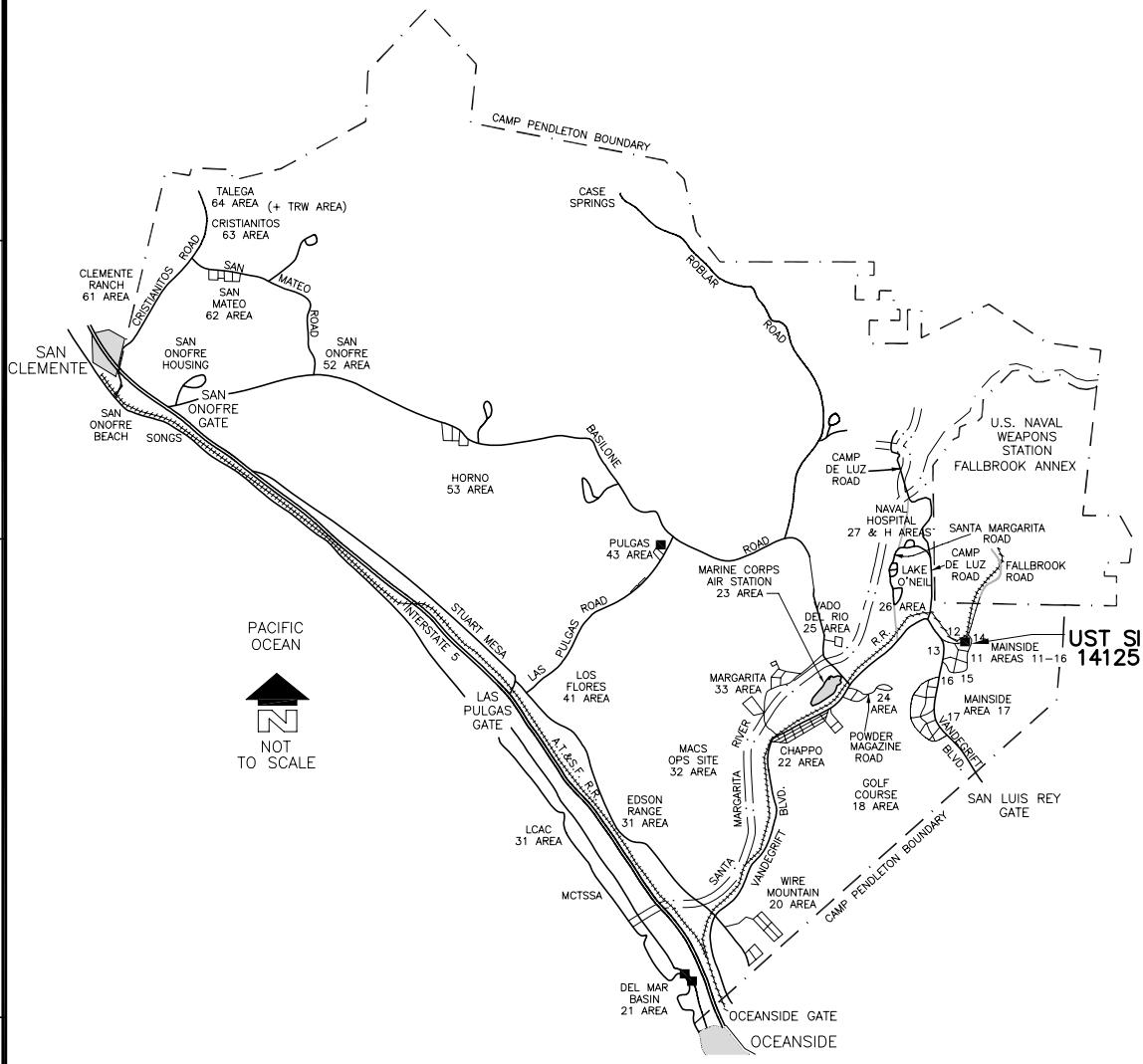

Figure 1-1
SITE LOCATION MAP

MCB CAMP PENDLETON

SES-TECH

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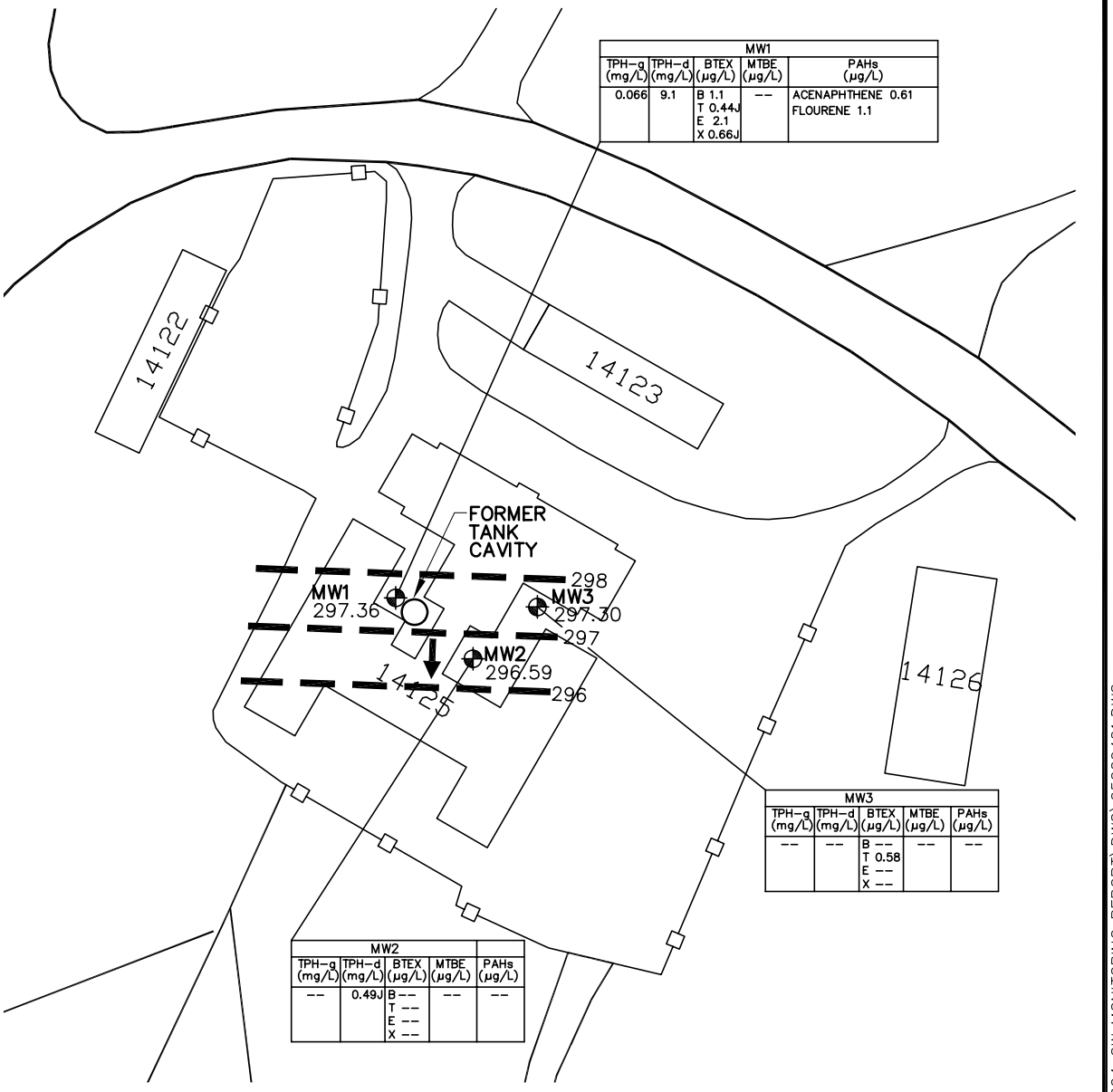
PLOT/UPDATE: JUN 28 2005 10:39:15



LEGEND:

- ⊕ MONITORING WELL LOCATION
- 298 GROUNDWATER ELEVATION
- ➡ GROUNDWATER FLOW DIRECTION
- TPH-g TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
- TPH-d TOTAL PETROLEUM HYDROCARBONS AS DIESEL
- BTEX BENZENE, TOLUENE ETHYLBENZENE, XYLENES
- PAHs POLYNUCLEAR AROMATIC HYDROCARBONS
- µg/L MICROGRAMS PER LITER
- mg/L MILLIGRAMS PER LITER
- MTBE METHYL TERT-BUTYL ETHER
- -- NOT DETECTED ABOVE

LABORATORY REPORTING LIMITS:

TPH-g = 0.1 mg/L
TPH-d = 0.1 mg/L
B = 0.5 µg/L
T = 0.5 µg/L
E = 0.5 µg/L
X = 1.5 µg/L
MTBE = 5 µg/L

100 50 0 100 200

SCALE IN FEET

Figure 2-1
SITE LOCATION MAP

UST SITE 1441

MCB CAMP PENDLETON

SES-TECH

DRAWN BY: MD | CHECKED BY: MC | APPROVED BY: MC | DCN: SES-TECH-05-0094 | DRAWING NO: 05009421.DWG
DATE: 07/01/05 | REV: REVISION 0 | CTO: #004

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PLOT/UPDATE: JUL 21 2005 11:34:20

APPENDIX A

WELL SAMPLING LOGS

SES-TECH

Field Water Level Measurements

Date: 9/6/05
Personnel: W. Bryant
M. Pang
Weather: Sunny, Warm

Project Name: 2973-0004
Project OFS: 14125
Measurement Device: Solinst
Comments:

Well I.D.	Depth to Water from Measuring Point (feet)	Depth to Sediment from Measuring Point (feet)	Comments
MW-1	7.97 TOC	15.06	
MW-3	5.56 TOC	14.51	
MW-2	7.06 TOC	14.65	

F:\forms\logs\water level

LOW-FLOW PURGING AND SAMPLING DATA SHEET

Project Name: 2973-0040
Project Number: 14125
Date: 9/7/05
Site Engineer(s): M. Parr, W. Bryant

Well Number: MW-3
Equipment: QED Sample Pro Mini Bladder Pump
Sample ID: 0004-36 Time: 0938
Contractor: Tetra Tech EC, Inc.

Reference: Top of Casing

	Before	After
Depth to Water (ft)	5.55	5.65
Depth of Well (ft)	14.51	
Depth to Top of Screen	0'	
Screen Length (ft)	15'	
Pump depth (ft)	11'	
Pump Rate	150	
Sample Pump Rate	150 ~~200~~	
System Volume	506	

Total Volume Purged (mL): 2550

Notes/Calcs:

System Vol (mL) = (2.4*H)+470
where
2.4mL/ft = tubing volume per foot (1/8"ID)
H = length of tubing in feet
470 mL = Bladder volume + Flowthru cell volume

Time	pH	Conductivity (µmhos)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	Turbidity (NTU)	Depth to Water (ft)	Cum. Volume (mL)	Comments
0920									purge on
0925	6.33	274	2.88	19.90	82	40.2	5.40	750	clear, no odor
0928	6.30	274	2.72	19.90	84	40.2	5.45	1200	clear, no odor
0931	6.29	274	2.66	19.93	85	42.8	5.51	1650	clear, no odor
0934	6.29	273	2.61	19.98	86	42.4	5.58	2100	clear, no odor
0937	6.29	273	2.61	20.00	86	43.6	5.65	2550	clear, no odor
0938								collect	sample
Stability:	± 0.2 units	± 3-5%	± 0.2 mg/L	± 0.3 %	± 20 mV	± 10%			

9/7/05

Hach Fe^{2+} N/A

Samples were collected directly from pump unless otherwise noted.

LOW-FLOW PURGING AND SAMPLING DATA SHEET

Project Name: MCB Camp Lejeune
Project Number: UST Site 14125
Date: 9/7/05
Site Engineer(s): W. Bryant, M. Pang

Well Number: MW-2
Equipment: QED Sample Pro Mini Bladder Pump
Sample ID: 0004-37 Time: 1051
Contractor: Tetra Tech EC Inc

Reference: Top of Casing

	Before	After
Depth to Water (ft)	6.86	7.30
Depth of Well (ft)	14.65	
Depth to Top of Screen	0	
Screen Length (ft)	15	
Pump depth (ft)	11 ≈	
Pump Rate	150	
Sample Pump Rate	100	
System Volume	506	

Total Volume Purged (mL): 2000

Notes/Calcs:

System Vol (mL) = (2.4*H)+470
where
2.4mL/ft = tubing volume per foot (1/8"ID)
H = length of tubing in feet
470 mL = Bladder volume + Flowthru cell volume

Time	pH	Conductivity (µmhos)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	Turbidity (NTU)	Depth to Water (ft)	Cum. Volume (mL)	Comments
1030									Pump on
1035	6.36	4000	3.83	21.29	106	21.6	7.01	500	clear, no odor
1038	6.36	407	3.54	21.34	106	21.5	7.08	800	clear, no odor
1041	6.35	4.07	3.47	21.28	107	19.5	7.13	1100	clear, no odor
1044	6.35	4.06	3.45	21.27	107	16.5	7.20	1400	clear, no odor
1047	6.35	4.06	3.45	21.30	107	16.5	7.26	1700	clear, no odor
1050	6.35	4.06	3.43	21.34	108	15.3	7.30	2000	clear, no odor
1051									Collect sample
1056									collect Dup sample
Stability:	± 0.2 units	± 3-5%	± 0.2 mg/L	± 0.3 %	± 20 mV	± 10%			

9/7/05

0004-38 Dup sample @ 1056

Hach Fe^{2+} DIA

Samples were collected directly from pump unless otherwise noted.

LOW-FLOW PURGING AND SAMPLING DATA SHEET

Project Name: MCB Camp Pendleton
Project Number: UST 14125
Date: 9/7/05
Site Engineer(s): M. Pang, W. Bryant

Well Number: MW-1
Equipment: QED Sample Pro Mini Bladder Pump
Sample ID: 0004-39 Time: 1208
Contractor: Tetra Tech EC, Inc

Reference: Top of Casing	Before	After
Depth to Water (ft)	7.93	8.36
Depth of Well (ft)	15.06	
Depth to Top of Screen	5	
Screen Length (ft)	15	
Pump depth (ft)	12.0	
Pump Rate	240	
Sample Pump Rate	240	
System Volume	506	

Total Volume Purged (mL): 4320

Notes/Calcs:

System Vol (mL) = (2.4*H)+470
where
2.4mL/ft = tubing volume per foot (1/8"ID)
H = length of tubing in feet
470 mL = Bladder volume + Flowthru cell volume

Time	pH	Conductivity (µmhos)	Dissolved Oxygen (mg/L)	Temp. (°C)	ORP (mV)	Turbidity (NTU)	Depth to Water (ft)	Cum. Volume (mL)	Comments
1149									purge on
1152	6.75	1.89	0.00	22.27	-124	249.0	7.99	720	Cloudy hydrocarbon
1155	6.78	1.89	0.00	22.19	-126	221.0	8.07	1440	slight hydro odor
1158	6.81	1.89	0.00	22.34	-127	200.0	8.10	2160	clear " "
1201	6.82	1.89	0.00	22.22	-126	188.0	8.19	2880	" " "
1204	6.82	1.89	0.00	22.14	-125	174.0	8.28	3600	
1207	6.82	1.89	0.00	22.18	-125	174.0	8.36	4320	
1208									Collect samples
Stability:	± 0.2 units	± 3-5%	± 0.2 mg/L	± 0.3 %	± 20 mV	± 10%			

9/7/05

Hach Fe^{2+} N/A

Samples were collected directly from pump unless otherwise noted.

APPENDIX B

NON-HAZARDOUS WASTE MANIFEST

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12-pitch) typewriter)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: CA2170023533

Manifest Document No.: 54504

Page 1 of 1

3. Generator's Name and Mailing Address
ASSISTANT CHIEF OF STAFF
ENVIRONMENTAL SECURITY P.O. BOX 555008
CAMP PENDLETON, CA 92055-5008

4. Generator's Phone (760) 725-0189 ATTN: NATE DELESTON

5. Transporter 1 Company Name: GENSUM ENVIRONMENTAL MANAGEMENT

6. US EPA ID Number: CAD983649880

A. State Transporter's ID

B. Transporter 1 Phone: 800-326-1011

7. Transporter 2 Company Name

8. US EPA ID Number

C. State Transporter's ID

D. Transporter 2 Phone

9. Designated Facility Name and Site Address
DK ENVIRONMENTAL
3650 EAST 26TH STREET
VERNON, CA 90023

10. US EPA ID Number: CAT080033681

E. State Facility's ID

F. Facility's Phone: 323-268-5056

11. WASTE DESCRIPTION	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt./Vol.
a. NON HAZARDOUS LIQUID (WELL WATER)	1	DM	55	G
b. NON HAZARDOUS SOLID (WELL SOIL)	2	DM	1,500	P
c.				
d.				

G. Additional Descriptions for Materials Listed Above
11a) 1 x 55g - APPROVAL #340901-24
11b) 2 x 55g - APPROVAL # 340901-23

H. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
EMERGENCY PHONE (800) 326-1011 (G.E.M.)

SWO# 158166

16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.

GENERATOR

Printed/Typed Name: NATHANIEL D. DELESTON
Signature:
Date: Month 10 Day 26 Year 05

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: Rudy Negrete
Signature:
Date: Month 10 Day 26 Year 05

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Date: Month Day Year

19. Discrepancy Indication Space

FACILITY

20. Facility Owner or Operator: Certification of receipt of the waste materials covered by this manifest, except as noted in Item 19.
Printed/Typed Name:
Signature:
Date: Month Day Year

APPENDIX C

LABORATORY ANALYTICAL REPORT AND CHAIN-OF-CUSTODY FORM

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 12434

PROJECT NAME: Camp Pendleton	PURCHASE ORDER NO.:	LABORATORY NAME: EMAX	**Project Information Section Do not submit to Laboratory**
PROJECT LOCATION: UST Site 14125	PROJECT NO.: 2973.0040	LABORATORY ID (FOR LABORATORY): 05I048	
SAMPLER NAME: Tania Turpin-Perez / Wendy Bryant	AIRBILL NUMBER: Courier		
PROJECT CONTACT: Linda Aleckson	PROJECT CONTACT PHONE NUMBER: 949-756-7500		

ANALYSES REQUIRED

SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 8021B (MTBE)	EPA 8015B (TPH-d)	EPA 8270C (PAH)	EPA 8015B (TPH-g)	COMMENTS	LOCATION	DEPTH START	DEPTH END	QC
0004-34	9/7/05	0830	3	X		W	10 Day	X					Trip Blank	\	\	TB
0004-35	9/7/05	0845	8	X		W	10 Day	X	X	X			Equip. Rinsate	\	\	ER
0004-36	9/7/05	0936	24	X		W	10 Day	X	X	X		TO include MS/MSD	14125-MW-3	\	\	Reg
0004-37	9/7/05	1051	8		X	W	10 Day	X	X	X			14125-MW-2	\	\	Reg
0004-38	9/7/05	1056	8	X		W	10 Day	X	X	X			14125-MW-2	\	\	Dup
0004-39	9/7/05	1208	8	X		W	10 Day	X	X	X			14125-MW-1	\	\	Reg

WB 9/7/05

WB 9/7/05

RELINQUISHED BY (Signature): [signature]	DATE: 9/8/05	RECEIVED BY (Signature): [signature]	LABORATORY INSTRUCTIONS/COMMENTS:
COMPANY: SES TECH	TIME: 13:15	COMPANY: EMAX	
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	COMPOSITE DESCRIPTION:
COMPANY:	TIME:	COMPANY:	
RELINQUISHED BY (Signature):	DATE:	RECEIVED BY (Signature):	**SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)** TEMPERATURE: ____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COMPANY:	TIME:	COMPANY:	COOLER SEAL: ☐ INTACT ☐ BROKEN

SAMPLING COMMENT:

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

COPY

TABLE OF CONTENTS

CLIENT: **SES-TECH**

PROJECT: **CAMP PENDLETON, UST SITE 14125**

SDG: **05I048**

** - Not Requested

EMAX LABORATORIES, INC. 1835 W. 205th Street, Torrance, CA 90501 Tel: (310) 618-8889 Fax: (310) 618-0818

received 9-29-05

EMAX
LABORATORIES, INC.
1835 W. 205th Street
Torrance, CA 90501
Tel: (310) 618-8889
Fax: (310) 618-0818

Date: 09-26-2005
EMAX Batch No.: 051048

Attn: Sevda Aleckson

SES-TECH
1940 E. Deere Avenue, Suite 200
Santa Ana CA 92705

Subject: Laboratory Report
Project: Camp Pendleton, UST Site 14125

Enclosed is the Laboratory report for samples received on 09/08/05.
The data reported include :

Sample ID	Control #	Col Date	Matrix	Analysis
0004-34	1048-01	09/07/05	WATER	BTEX & MTBE
0004-35	1048-02	09/07/05	WATER	BTEX & MTBE
				SEMIVOLATILE ORGANICS SIM
				TPH DIESEL
				TPH GASOLINE
0004-36	1048-03	09/07/05	WATER	BTEX & MTBE
				SEMIVOLATILE ORGANICS SIM
				TPH DIESEL
				TPH GASOLINE
0004-37	1048-04	09/07/05	WATER	BTEX & MTBE
				SEMIVOLATILE ORGANICS SIM
				TPH DIESEL
				TPH GASOLINE
0004-38	1048-05	09/07/05	WATER	BTEX & MTBE
				SEMIVOLATILE ORGANICS SIM
				TPH DIESEL
				TPH GASOLINE
0004-39	1048-06	09/07/05	WATER	BTEX & MTBE
				SEMIVOLATILE ORGANICS SIM

Sample ID	Control #	Col Date	Matrix	Analysis
				TPH DIESEL
				TPH GASOLINE
0004-36MS	I048-03M	09/07/05	WATER	BTEX & MTBE
				SEMIVOLATILE ORGANICS SIM
				TPH DIESEL
				TPH GASOLINE
0004-36MSD	I048-03S	09/07/05	WATER	BTEX & MTBE
				SEMIVOLATILE ORGANICS SIM
				TPH DIESEL
				TPH GASOLINE

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Kam Y. Pang, Ph.D.
Laboratory Director

EMAX LABORATORIES

VW09-13/I10

05I048

TETRA TECH
1230 Columbia Street, Suite 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER 12434

PROJECT NAME: Camp Pendleton
PURCHASE ORDER NO.:
PROJECT LOCATION: UST Site 14125
PROJECT NO.: 2973.0040
SAMPLER NAME: Wendy Bryant / TANIA TUXPAN-KEMLEY
AIRBILL NUMBER: Courier
PROJECT CONTACT: Senda Aleckson
PROJECT CONTACT PHONE NUMBER: 949-756-7500
LABORATORY NAME: EMAX
LABORATORY ID (FOR LABORATORY):

ANALYSES REQUIRED: EPA 8021B (MTBE); EPA 8015B (TPHd); EPA 8270C (PAH); EPA 8015B (TPHg)

	SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL 3	LEVEL 4	TYPE	TAT	EPA 8021B (MTBE)	EPA 8015B (TPHd)	EPA 8270C (PAH)	EPA 8015B (TPHg)					COMMENTS
1	0004-34	9/7/05	0830	3	X		W	10 Day	X								
2	0004-35	9/7/05	0845	8	X		W	10 Day	X	X	X						
3	0004-36	9/7/05	0938	24	X		W	10 Day	X	X	X						to include MS/MSD
4	0004-37	9/7/05	1051	8		X	W	10 Day	X	X	X						
5	0004-38	9/7/05	1056	8	X		W	10 Day	X	X	X						
6	0004-39	9/7/05	1208	8	X		W	10 Day	X	X	X						

WB 9/7/05

RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
[signature]	9/8/05	[signature]
COMPANY: TES TECH	TIME: 13:15	COMPANY: EMAX
RELINQUISHED BY (Signature): [signature]	DATE: 9-8-05	RECEIVED BY (Signature): [signature]
COMPANY: EMAX	TIME: 1510	COMPANY: EMAX
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Signature)
COMPANY	TIME	COMPANY

LABORATORY INSTRUCTIONS/COMMENTS: T = 3.8°C, T = 3.5°C, T = 3.0, T = 3.2°C

COMPOSITE DESCRIPTION:

SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY)
TEMPERATURE: ____ SAMPLE CONDITION: ☐ INTACT ☐ BROKEN
COOLER SEAL: ☐ INTACT ☐ BROKEN

1002

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

EMAX-SM02
Rev. 3
Appendix 2

SAMPLE RECEIPT FORM 1

Type of Delivery	Delivered By/Airbill		
☑ EMAX Courier	See Coc	ECN	051048
☐ Client Delivery		Recepient	C. Chavez
☐ Third Party		Date	9-8-05
		Time	1510

COC Inspection

☑ Client Name	☑ Sampler Name	☑ Sampling Date/Time/Location
☑ Address	☑ Courier Signature/Date/Time	☑ Analysis Required
☑ Client PM/FC	☑ TAT	☑ Matrix
☑ Tel #/Fax #	☑ Sample ID	☐ Preservative (If any)
Safety Issues ☑ None	☐ High Concentrations expected	☐ Superfund Site Samples
Comments: ☐ Rad Screening Required		

Packaging Inspection

Container	☑ Coolers	☐ Box	☐	☐
Condition	☑ Custody Seal	☑ Intact	☐ Damaged	☐
Packaging	☑ Bubble Pack	☐ Styrofoam	☑ Sufficient	☑ Plastic Bag
Temperatures	☑ Cooler 1 3.8°C	☑ Cooler 2 3.5°C	☑ Cooler 3 3.0°C	☑ Cooler 4 3.2°C
	☐ Cooler 5 ____	☐ Cooler 6 ____	☐ Cooler 7 ____	☐ Cooler 8 ____
	☐ Cooler 9 ____	☐ Cooler 10 ____	☐ Cooler 11 ____	☐ Cooler 12 ____

Comments:

LSCID	Client ID	Discrepancy	Corrective Action
		8015 Gas Not Requested on Coc But Requested on Labels	Analyze for TPH-Gas

LSCID : Lab Sample Container ID

REVIEWS

Sample Labeling ☑ Date 9-8-05

SRF ☑ Date 9/9/05

PM ☑ Date 9/9/05

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than RL but greater than MDL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

EMA LABORATORIES

LABORATORY REPORT FOR

SES-TECH

CAMP PENDLETON, UST SITE 14125

SW 3520C/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS

SDG#: 05I048

3000

CASE NARRATIVE

CLIENT: SES-TECH

PROJECT: CAMP PENDLETON, UST SITE 14125

SDG: 05I048

SW 3520C/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS

Five (5) water samples were received on 09/08/05 for Semi Volatile Organic analysis by Method 3520C/8270C SIM in accordance with USEPA SW846, 3rd ed.

1. **Holding Time**

   Analytical holding time was met.

2. **Tuning and Calibration**

   Tuning and calibration were carried out at 12-hour interval. All QC requirements were met except:

Date	QC	Compound	Outlier	QC Limit
09/22/05	CSV42I1206	Indeno(1,2,3-cd)pyrene	%Dev 31	≤25

3. **Method Blank**

   Method blank was free of contamination at half of the reporting limit.

4. **Surrogate Recovery**

   Recoveries were within QC limit.

5. **Lab Control Sample**

   Recoveries were within QC limit.

6. **Matrix Spike/Matrix Spike Duplicate**

   Sample I048-03 was spiked. All recoveries were within QC limit.

7. **Sample Analysis**

   Samples were analyzed according to the prescribed QC procedures. All criteria were met with the aforementioned exception.

LAB CHRONICLE
SEMI VOLATILE ORGANICS BY GC/MS

Client : SES-TECH
Project : CAMP PENDLETON, UST SITE 14125

SDG NO. : 051048
Instrument ID : T-042

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	SVI021WB	1	NA	09/22/0515:06	09/12/0516:30	RIX142	RIX008	SVI021W	Method Blank
LCS1W	SVI021WL	1	NA	09/22/0515:31	09/12/0516:30	RIX143	RIX008	SVI021W	Lab Control Sample (LCS)
0004-35	1048-02	.95	NA	09/22/0515:56	09/12/0516:30	RIX144	RIX008	SVI021W	Field Sample
0004-36	1048-03	.94	NA	09/22/0516:21	09/12/0516:30	RIX145	RIX008	SVI021W	Field Sample
0004-37	1048-04	.98	NA	09/22/0517:35	09/12/0516:30	RIX148	RIX008	SVI021W	Field Sample
0004-38	1048-05	.97	NA	09/22/0518:00	09/12/0516:30	RIX149	RIX008	SVI021W	Field Sample
0004-39	1048-06	.95	NA	09/22/0518:25	09/12/0516:30	RIX150	RIX008	SVI021W	Field Sample
0004-36MS	1048-03M	.94	NA	09/22/0516:46	09/12/0516:30	RIX146	RIX008	SVI021W	Matrix Spike Sample (MS)
0004-36MSD	1048-03S	.94	NA	09/22/0517:10	09/12/0516:30	RIX147	RIX008	SVI021W	MS Duplicate (MSD)

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

3003

EMA LABORATORIES

SW 3520C/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS

Client : SES-TECH	Date Collected: 09/07/05
Project : CAMP PENDLETON, UST SITE 14125	Date Received: 09/08/05
Batch No. : 051048	Date Extracted: 09/12/05 16:30
Sample ID: 0004-35	Date Analyzed: 09/22/05 15:56
Lab Samp ID: 1048-02	Dilution Factor: .95
Lab File ID: RIX144	Matrix : WATER
Ext Btch ID: SVI021W	% Moisture : NA
Calib. Ref.: RIX008	Instrument ID : T-042

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ACENAPHTHENE	ND	.95	.19
ACENAPHTHYLENE	ND	.95	.19
ANTHRACENE	ND	1.9	.19
BENZO(A)ANTHRACENE	ND	1.9	.19
BENZO(A)PYRENE	ND	.95	.19
BENZO(B)FLUORANTHENE	ND	.95	.19
BENZO(K)FLUORANTHENE	ND	1.9	.19
BENZO(G,H,I)PERYLENE	ND	.95	.19
CHRYSENE	ND	1.9	.19
DIBENZO(A,H)ANTHRACENE	ND	.95	.19
FLUORANTHENE	ND	1.9	.19
FLUORENE	ND	1.9	.19
INDENO(1,2,3-CD)PYRENE	ND	.95	.19
NAPHTHALENE	ND	.95	.19
PHENANTHRENE	ND	.95	.19
PYRENE	ND	1.9	.19

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TERPHENYL-D14	57	50-130

RL: Reporting Limit

3004

EMA LABORATORIES

SW 3520C/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS

Client : SES-TECH	Date Collected: 09/07/05
Project : CAMP PENDLETON, UST SITE 14125	Date Received: 09/08/05
Batch No. : 051048	Date Extracted: 09/12/05 16:30
Sample ID: 0004-36	Date Analyzed: 09/22/05 16:21
Lab Samp ID: 1048-03	Dilution Factor: .94
Lab File ID: RIX145	Matrix : WATER
Ext Btch ID: SVI021W	% Moisture : NA
Calib. Ref.: RIX008	Instrument ID : T-042

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ACENAPHTHENE	ND	.94	.19
ACENAPHTHYLENE	ND	.94	.19
ANTHRACENE	ND	1.9	.19
BENZO(A)ANTHRACENE	ND	1.9	.19
BENZO(A)PYRENE	ND	.94	.19
BENZO(B)FLUORANTHENE	ND	.94	.19
BENZO(K)FLUORANTHENE	ND	1.9	.19
BENZO(G,H,I)PERYLENE	ND	.94	.19
CHRYSENE	ND	1.9	.19
DIBENZO(A,H)ANTHRACENE	ND	.94	.19
FLUORANTHENE	ND	1.9	.19
FLUORENE	ND	1.9	.19
INDENO(1,2,3-CD)PYRENE	ND	.94	.19
NAPHTHALENE	ND	.94	.19
PHENANTHRENE	ND	.94	.19
PYRENE	ND	1.9	.19

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TERPHENYL-D14	75	50-130

RL: Reporting Limit

SW 3520C/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS

Client	: SES-TECH	Date Collected:	09/07/05
Project	: CAMP PENDLETON, UST SITE 14125	Date Received:	09/08/05
Batch No.	: 051048	Date Extracted:	09/12/05 16:30
Sample ID:	0004-37	Date Analyzed:	09/22/05 17:35
Lab Samp ID:	1048-04	Dilution Factor:	.98
Lab File ID:	RIX148	Matrix :	WATER
Ext Btch ID:	SVI021W	% Moisture :	NA
Calib. Ref.:	RIX008	Instrument ID :	T-042

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ACENAPHTHENE	ND	.98	.2
ACENAPHTHYLENE	ND	.98	.2
ANTHRACENE	ND	2	.2
BENZO(A)ANTHRACENE	ND	2	.2
BENZO(A)PYRENE	ND	.98	.2
BENZO(B)FLUORANTHENE	ND	.98	.2
BENZO(K)FLUORANTHENE	ND	2	.2
BENZO(G,H,I)PERYLENE	ND	.98	.2
CHRYSENE	ND	2	.2
DIBENZO(A,H)ANTHRACENE	ND	.98	.2
FLUORANTHENE	ND	2	.2
FLUORENE	ND	2	.2
INDENO(1,2,3-CD)PYRENE	ND	.98	.2
NAPHTHALENE	ND	.98	.2
PHENANTHRENE	ND	.98	.2
PYRENE	ND	2	.2

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TERPHENYL-D14	76	50-130

RL: Reporting Limit

SW 3520C/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS

Client	: SES-TECH	Date Collected:	09/07/05
Project	: CAMP PENDLETON, UST SITE 14125	Date Received:	09/08/05
Batch No.	: 051048	Date Extracted:	09/12/05 16:30
Sample ID:	0004-38	Date Analyzed:	09/22/05 18:00
Lab Samp ID:	1048-05	Dilution Factor:	.97
Lab File ID:	RIX149	Matrix :	WATER
Ext Btch ID:	SVI021W	% Moisture :	NA
Calib. Ref.:	RIX008	Instrument ID :	T-042

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ACENAPHTHENE	ND	.97	.19
ACENAPHTHYLENE	ND	.97	.19
ANTHRACENE	ND	1.9	.19
BENZO(A)ANTHRACENE	ND	1.9	.19
BENZO(A)PYRENE	ND	.97	.19
BENZO(B)FLUORANTHENE	ND	.97	.19
BENZO(K)FLUORANTHENE	ND	1.9	.19
BENZO(G,H,I)PERYLENE	ND	.97	.19
CHRYSENE	ND	1.9	.19
DIBENZO(A,H)ANTHRACENE	ND	.97	.19
FLUORANTHENE	ND	1.9	.19
FLUORENE	ND	1.9	.19
INDENO(1,2,3-CD)PYRENE	ND	.97	.19
NAPHTHALENE	ND	.97	.19
PHENANTHRENE	ND	.97	.19
PYRENE	ND	1.9	.19

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TERPHENYL-D14	81	50-130

RL: Reporting Limit

3010

SW 3520C/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS

Client : SES-TECH	Date Collected: 09/07/05
Project : CAMP PENDLETON, UST SITE 14125	Date Received: 09/08/05
Batch No. : 051048	Date Extracted: 09/12/05 16:30
Sample ID: 0004-39	Date Analyzed: 09/22/05 18:25
Lab Samp ID: I048-06	Dilution Factor: .95
Lab File ID: RIX150	Matrix : WATER
Ext Btch ID: SVI021W	% Moisture : NA
Calib. Ref.: RIX008	Instrument ID : T-042

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ACENAPHTHENE	ND	.95	.19
ACENAPHTHYLENE	ND	.95	.19
ANTHRACENE	ND	1.9	.19
BENZO(A)ANTHRACENE	ND	1.9	.19
BENZO(A)PYRENE	ND	.95	.19
BENZO(B)FLUORANTHENE	ND	.95	.19
BENZO(K)FLUORANTHENE	ND	1.9	.19
BENZO(G,H,I)PERYLENE	ND	.95	.19
CHRYSENE	ND	1.9	.19
DIBENZO(A,H)ANTHRACENE	ND	.95	.19
FLUORANTHENE	ND	1.9	.19
FLUORENE	ND	1.9	.19
INDENO(1,2,3-CD)PYRENE	ND	.95	.19
NAPHTHALENE	ND	.95	.19
PHENANTHRENE	ND	.95	.19
PYRENE	ND	1.9	.19

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TERPHENYL-D14	70	50-130

RL: Reporting Limit

EMA LABORATORIES

QC SUMMARIES

SW 3520C/8270C SIM
SEMI VOLATILE ORGANICS BY GC/MS

Client	: SES-TECH	Date Collected:	NA
Project	: CAMP PENDLETON, UST SITE 14125	Date Received:	09/12/05
Batch No.	: 051048	Date Extracted:	09/12/05 16:30
Sample ID:	MBLK1W	Date Analyzed:	09/22/05 15:06
Lab Samp ID:	SV1021WB	Dilution Factor:	1
Lab File ID:	RIX142	Matrix :	WATER
Ext Btch ID:	SV1021W	% Moisture :	NA
Calib. Ref.:	RIX008	Instrument ID :	T-042

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ACENAPHTHENE	ND	1	.2
ACENAPHTHYLENE	ND	1	.2
ANTHRACENE	ND	2	.2
BENZO(A)ANTHRACENE	ND	2	.2
BENZO(A)PYRENE	ND	1	.2
BENZO(B)FLUORANTHENE	ND	1	.2
BENZO(K)FLUORANTHENE	ND	2	.2
BENZO(G,H,I)PERYLENE	ND	1	.2
CHRYSENE	ND	2	.2
DIBENZO(A,H)ANTHRACENE	ND	1	.2
FLUORANTHENE	ND	2	.2
FLUORENE	ND	2	.2
INDENO(1,2,3-CD)PYRENE	ND	1	.2
NAPHTHALENE	ND	1	.2
PHENANTHRENE	ND	1	.2
PYRENE	ND	2	.2

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TERPHENYL-D14	60	50-130

RL: Reporting Limit

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: SES-TECH
PROJECT: CAMP PENDLETON, UST SITE 14125
BATCH NO.: 051048
METHOD: SW 3520C/8270C SIM

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: 1 1
SAMPLE ID: MBLK1W
LAB SAMP ID: SVI021WB SVI021WL
LAB FILE ID: RIX142 RIX143
DATE EXTRACTED: 09/12/0516:30 09/12/0516:30 DATE COLLECTED: NA
DATE ANALYZED: 09/22/0515:06 09/22/0515:31 DATE RECEIVED: 09/12/05
PREP. BATCH: SVI021W SVI021W
CALIB. REF: RIX008 RIX008

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	QC LIMIT (%)
Acenaphthene	ND	10	6.39	64	40-130
Acenaphthylene	ND	10	6.9	69	40-130
Anthracene	ND	10	5.71	57	50-130
Benzo(a)anthracene	ND	10	8.77	88	50-130
Benzo(a)pyrene	ND	10	9.1	91	50-130
Benzo(b)fluoranthene	ND	10	9.34	93	50-130
Benzo(k)fluoranthene	ND	10	8.54	85	30-150
Benzo(g,h,i)perylene	ND	10	9.97	100	50-130
Chrysene	ND	10	8.44	84	50-130
Dibenzo(a,h)anthracene	ND	10	10.4	104	40-140
Fluoranthene	ND	10	6.24	62	50-130
Fluorene	ND	10	6.57	66	40-130
Indeno(1,2,3-cd)pyrene	ND	10	12.4	124	30-140
Naphthalene	ND	10	5.23	52	30-130
Phenanthrene	ND	10	5.61	56	40-130
Pyrene	ND	10	6.13	61	40-130

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	QC LIMIT (%)
Terphenyl-d14	10	6.22	62	50-130

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: SES-TECH
PROJECT: CAMP PENDLETON, UST SITE 14125
BATCH NO.: 051048
METHOD: SW 3520C/8270C SIM

MATRIX: WATER % MOISTURE: NA
DILUTION FACTOR: .94 .94 .94
SAMPLE ID: 0004-36
LAB SAMP ID: 1048-03 1048-03M 1048-03S
LAB FILE ID: RIX145 RIX146 RIX147
DATE EXTRACTED: 09/12/0516:30 09/12/0516:30 09/12/0516:30 DATE COLLECTED: 09/07/05
DATE ANALYZED: 09/22/0516:21 09/22/0516:46 09/22/0517:10 DATE RECEIVED: 09/08/05
PREP. BATCH: SVI021W SVI021W SVI021W
CALIB. REF: RIX008 RIX008 RIX008

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	SPIKE AMT (ug/L)	MSD RSLT (ug/L)	MSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Acenaphthene	ND	9.4	4.9	52	9.4	4.85	52	1	40-130	30
Acenaphthylene	ND	9.4	5.38	57	9.4	5.18	55	4	40-130	30
Anthracene	ND	9.4	5.86	62	9.4	5.72	61	2	50-130	30
Benzo(a)anthracene	ND	9.4	7.36	78	9.4	7.57	80	3	50-130	30
Benzo(a)pyrene	ND	9.4	7.48	80	9.4	7.81	83	4	50-130	30
Benzo(b)fluoranthene	ND	9.4	8.04	86	9.4	8.22	87	2	50-130	30
Benzo(k)fluoranthene	ND	9.4	6.87	73	9.4	7.26	77	5	30-150	30
Benzo(g,h,i)perylene	ND	9.4	8.06	86	9.4	8.39	89	4	50-130	30
Chrysene	ND	9.4	7.11	76	9.4	7.37	78	4	50-130	30
Dibenzo(a,h)anthracene	ND	9.4	8.59	91	9.4	8.96	95	4	40-140	30
Fluoranthene	ND	9.4	6.91	74	9.4	7.12	76	3	50-130	30
Fluorene	ND	9.4	5.06	54	9.4	4.95	53	2	40-130	30
Indeno(1,2,3-cd)pyrene	ND	9.4	10.7	114	9.4	11.1	118	4	30-140	30
Naphthalene	ND	9.4	3.94	42	9.4	4.18	44	6	30-130	30
Phenanthrene	ND	9.4	6.01	64	9.4	5.72	61	5	40-130	30
Pyrene	ND	9.4	6.82	73	9.4	6.99	74	2	40-130	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	SPIKE AMT (ug/L)	MSD RSLT (ug/L)	MSD % REC	QC LIMIT (%)
Terphenyl-d14	9.4	7.35	78	9.4	6.94	74	50-130

LABORATORY REPORT FOR

SES-TECH

CAMP PENDLETON, UST SITE 14125

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE & TRAP

SDG#: 05I048

4000

CASE NARRATIVE

CLIENT: SES-TECH

PROJECT: CAMP PENDLETON, UST SITE 14125

SDG: 05I048

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Five (5) water samples were received on 09/08/05 for Total Petroleum Hydrocarbons by Purge and Trap analysis by Method 5030B/8015B in accordance with SW846 3rd Edition.

1. **Holding Time**

   Analytical holding time was met. Water samples were preserved.

2. **Calibration**

   Initial calibration was seven points. %RSD's were within 20%. Continuing calibrations were carried out at 12-hour intervals. All recoveries were within 85-115%.

3. **Method Blank**

   Method blank was free of contamination at half of the reporting limit.

4. **Surrogate Recovery**

   All recoveries were within QC limits.

5. **Lab Control Sample/Lab Control Sample Duplicate**

   All recoveries were within QC limits.

6. **Matrix Spike/Matrix Spike Duplicate**

   Sample I048-03 was spiked. Recoveries were within QC limits.

7. **Sample Analysis**

   Samples were analyzed according to the prescribed QC procedures. All criteria were met. Results were quantified from C_6 to C_{10} using GRO (C_6 - C_{10}) calibration factor.

LAB CHRONICLE
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : SES-TECH
Project : CAMP PENDLETON, UST SITE 14125

SDG NO. : 051048
Instrument ID : GCT039

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	VA39I07B	1	NA	09/12/0512:42	09/12/0512:42	EI12004A	EI12002A	VA39I07	Method Blank
LCS1W	VA39I07L	1	NA	09/12/0513:18	09/12/0513:18	EI12005A	EI12002A	VA39I07	Lab Control Sample (LCS)
LCD1W	VA39I07C	1	NA	09/12/0513:55	09/12/0513:55	EI12006A	EI12002A	VA39I07	LCS Duplicate
0004-35	I048-02	1	NA	09/12/0521:10	09/12/0521:10	EI12018A	EI12012A	VA39I07	Field Sample
0004-36	I048-03	1	NA	09/12/0515:45	09/12/0515:45	EI12009A	EI12002A	VA39I07	Field Sample
0004-37	I048-04	1	NA	09/12/0521:46	09/12/0521:46	EI12019A	EI12012A	VA39I07	Field Sample
0004-38	I048-05	1	NA	09/12/0522:22	09/12/0522:22	EI12020A	EI12012A	VA39I07	Field Sample
0004-39	I048-06	1	NA	09/12/0522:58	09/12/0522:58	EI12021A	EI12012A	VA39I07	Field Sample
0004-36MS	I048-03M	1	NA	09/12/0519:22	09/12/0519:22	EI12015A	EI12012A	VA39I07	Matrix Spike Sample (MS)
0004-36MSD	I048-03S	1	NA	09/12/0519:58	09/12/0519:58	EI12016A	EI12012A	VA39I07	MS Duplicate (MSD)

FN - Filename
% Moist - Percent Moisture

EMA LABORATORIES

SAMPLE RESULTS

4003

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : SES-TECH	Date Collected: 09/07/05
Project : CAMP PENDLETON, UST SITE 14125	Date Received: 09/08/05
Batch No. : 051048	Date Extracted: 09/12/05 21:10
Sample ID: 0004-35	Date Analyzed: 09/12/05 21:10
Lab Samp ID: 1048-02	Dilution Factor: 1
Lab File ID: E112018A	Matrix : WATER
Ext Btch ID: VA39107	% Moisture : NA
Calib. Ref.: E112012A	Instrument ID : GCT039

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	.05	.02

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	95	65-135

RL : Reporting Limit

Parameter	H-C Range
Gasoline	C6-C10

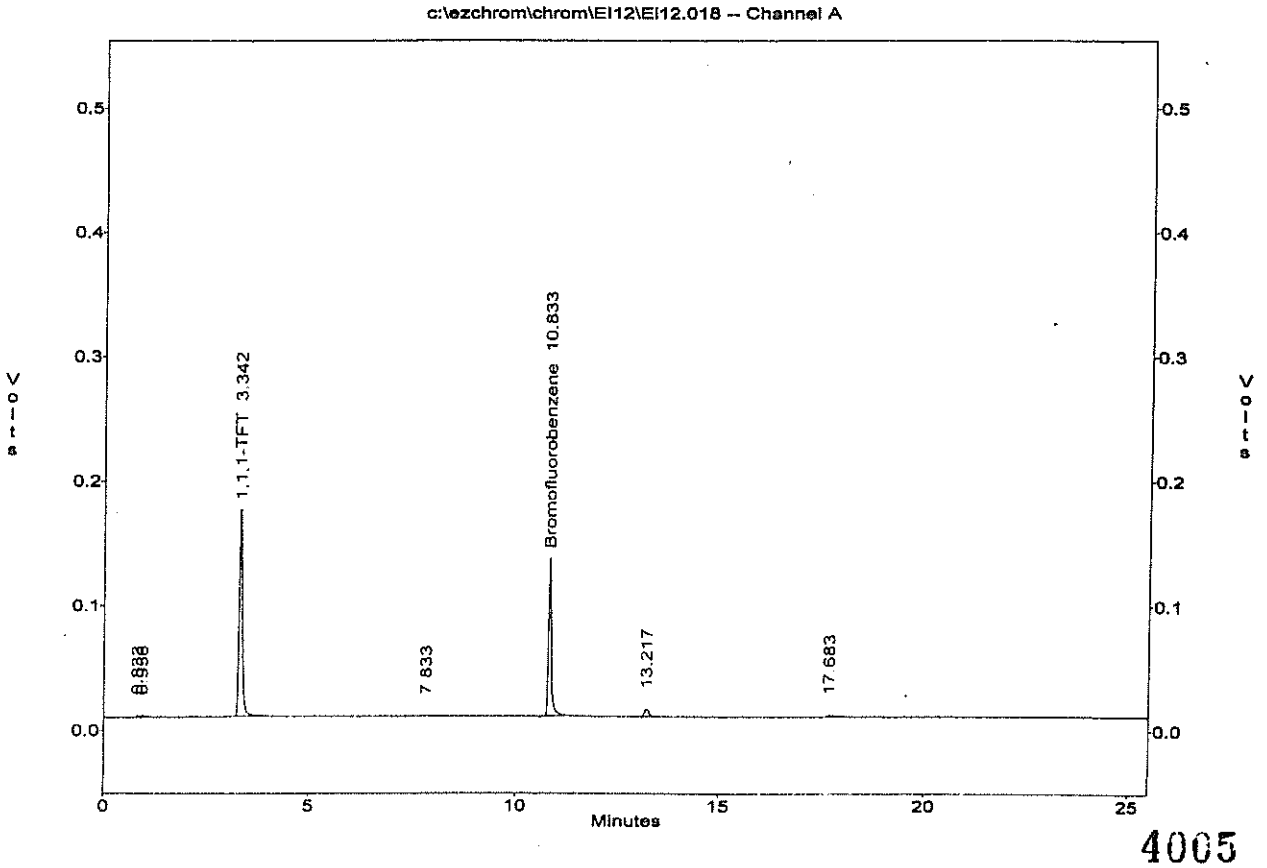
		Spike Conc	QC Limit Sample	QC Limit Blank & LCS
SURR : Bromofluorobenzene	Water	0.04 mg/L	63-135%	63-165%
	Soil	2 mg/kg	63-135%	70-150%

METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EI12\Ei12.018
Method : c:\ezchrom\methods\Vg39h03.met
Sample ID : 05I048-02 5.0ML W
Acquired : Sep 12, 2005 21:10:54
Printed : Sep 12, 2005 21:36:25
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
3	1,1,1-TFT	3.342	884951.0	24667.1	35.88
5	Bromofluorobenzene	10.833	644647.0	17021.7	37.87
G1	GASOLINE(TOTAL)		66419.0	17320.9	3.83
G2	GRO(C6-C10)		4979.0	14267.4	0.35
G3	GRO(2MP-124TMB)		4979.0	14336.4	0.35
G4	GRO(C5-C12)		66419.0	17000.7	3.91



4005

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: SES-TECH	Date Collected:	09/07/05
Project	: CAMP PENDLETON, UST SITE 14125	Date Received:	09/08/05
Batch No.	: 051048	Date Extracted:	09/12/05 15:45
Sample ID:	0004-36	Date Analyzed:	09/12/05 15:45
Lab Samp ID:	I048-03	Dilution Factor:	1
Lab File ID:	EI12009A	Matrix :	WATER
Ext Btch ID:	VA39107	% Moisture :	NA
Calib. Ref.:	EI12002A	Instrument ID :	GCT039

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	.05	.02

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	87	65-135

RL : Reporting Limit

Parameter	H-C Range
Gasoline	C6-C10

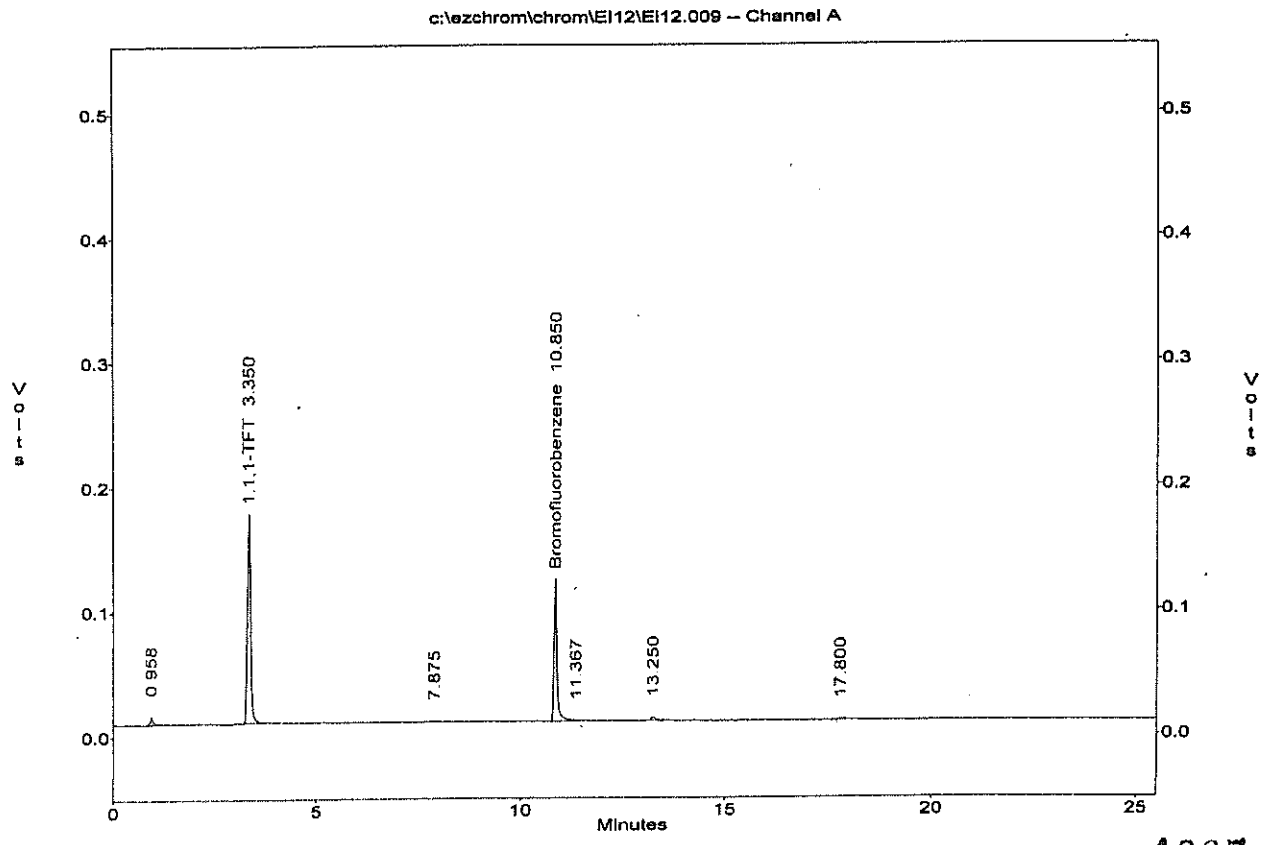
		Spike Conc	QC Limit Sample	QC Limit Blank & LCS
SURR : Bromofluorobenzene	Water	0.04 mg/L	63-135%	63-165%
	Soil	2 mg/kg	63-135%	70-150%

METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EI12\Ei12.009
Method : c:\ezchrom\methods\Vg39h03.met
Sample ID : 05I048-03 5.0ML W
Acquired : Sep 12, 2005 15:45:09
Printed : Sep 12, 2005 16:10:41
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
2	1,1,1-TFT	3.350	854995.0	24667.1	34.66
4	Bromofluorobenzene	10.850	592128.0	17021.7	34.79
G1	GASOLINE(TOTAL)		38780.0	17320.9	2.24
G2	GRO(C6-C10)		10784.0	14267.4	0.76
G3	GRO(2MP-124TMB)		10784.0	14336.4	0.75
G4	GRO(C5-C12)		38780.0	17000.7	2.28



4007

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : SES-TECH	Date Collected: 09/07/05
Project : CAMP PENDLETON, UST SITE 14125	Date Received: 09/08/05
Batch No. : 051048	Date Extracted: 09/12/05 21:46
Sample ID: 0004-37	Date Analyzed: 09/12/05 21:46
Lab Samp ID: 1048-04	Dilution Factor: 1
Lab File ID: EI12019A	Matrix : WATER
Ext Btch ID: VA39107	% Moisture : NA
Calib. Ref.: EI12012A	Instrument ID : GCT039

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	.05	.02

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	95	65-135

RL : Reporting Limit

Parameter	H-C Range
Gasoline	C6-C10

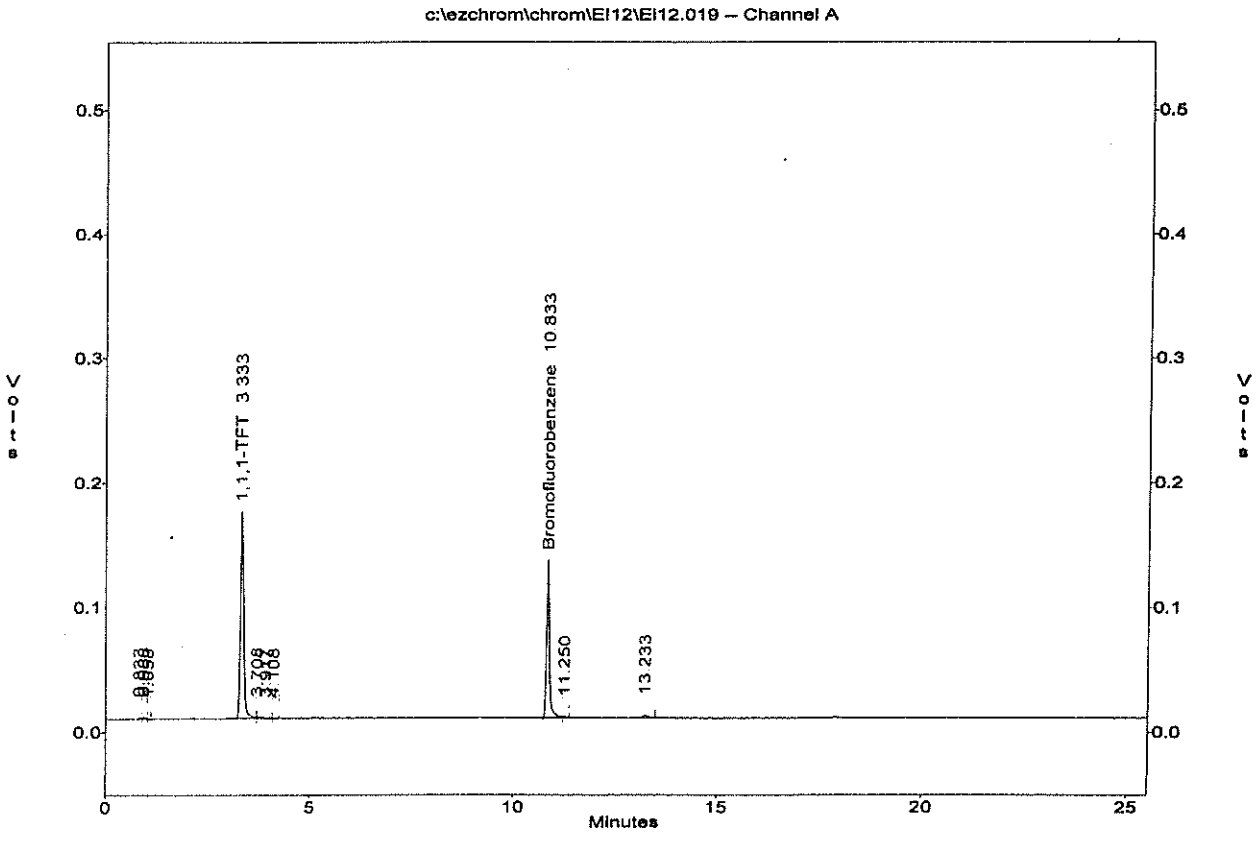
		Spike Conc	QC Limit Sample	QC Limit Blank & LCS
SURR : Bromofluorobenzene	Water	0.04 mg/L	63-135%	63-165%
	Soil	2 mg/kg	63-135%	70-150%

METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EI12\Ei12.019
Method : c:\ezchrom\methods\Vg39h03.met
Sample ID : 05I048-04 5.0ML W
Acquired : Sep 12, 2005 21:46:42
Printed : Sep 12, 2005 22:12:14
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
4	1,1,1-TFT	3.333	881530.0	24667.1	35.74
8	Bromofluorobenzene	10.833	647230.0	17021.7	38.02
G1	GASOLINE(TOTAL)		32939.0	17320.9	1.90
G2	GRO(C6-C10)		17695.0	14267.4	1.24
G3	GRO(2MP-124TMB)		17695.0	14336.4	1.23
G4	GRO(C5-C12)		32939.0	17000.7	1.94



4009

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : SES-TECH	Date Collected: 09/07/05
Project : CAMP PENDLETON, UST SITE 14125	Date Received: 09/08/05
Batch No. : 051048	Date Extracted: 09/12/05 22:22
Sample ID: 0004-38	Date Analyzed: 09/12/05 22:22
Lab Samp ID: 1048-05	Dilution Factor: 1
Lab File ID: EI12020A	Matrix : WATER
Ext Btch ID: VA39107	% Moisture : NA
Calib. Ref.: EI12012A	Instrument ID : GCT039

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	.05	.02

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	94	65-135

RL : Reporting Limit

Parameter	H-C Range
Gasoline	C6-C10

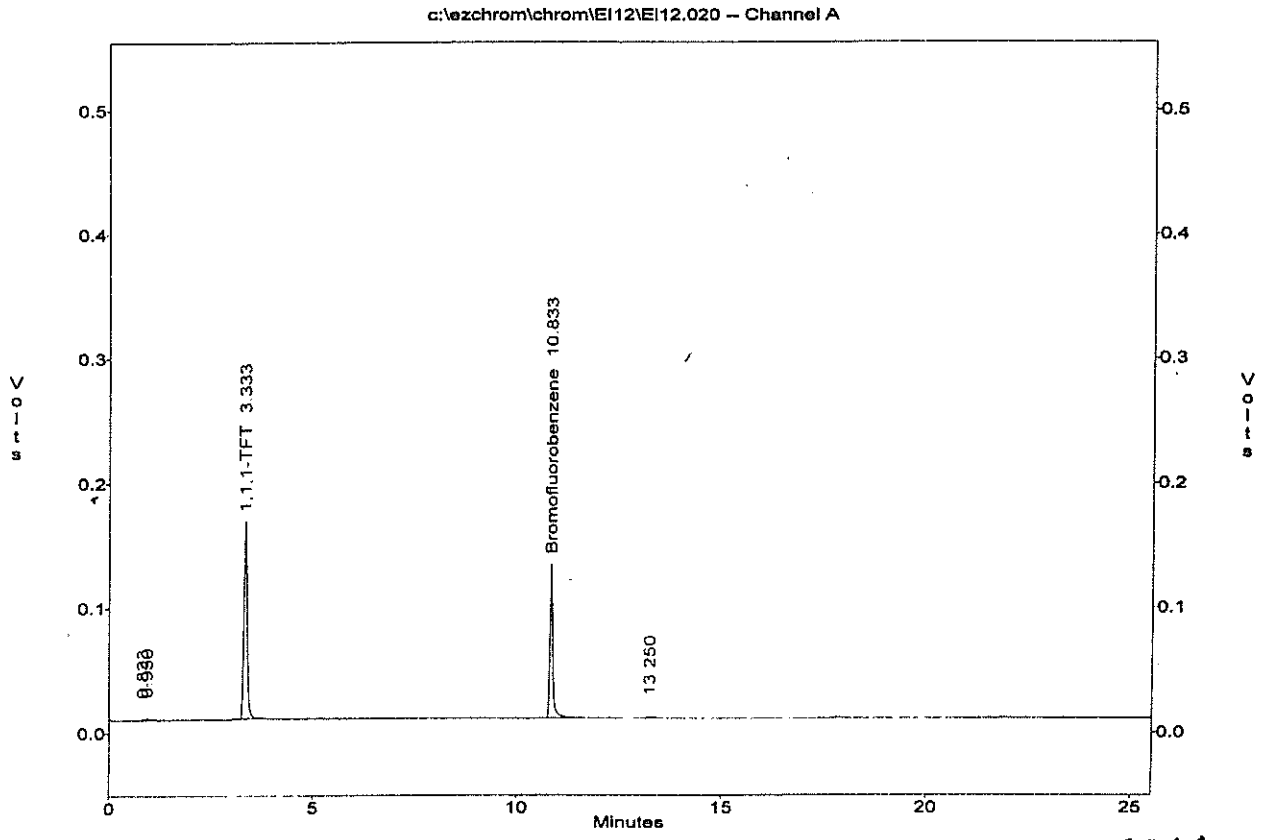
		Spike Conc	QC Limit Sample	QC Limit Blank & LCS
SURR : Bromofluorobenzene	Water	0.04 mg/L	63-135%	63-165%
	Soil	2 mg/kg	63-135%	70-150%

METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EI12\Ei12.020
Method : c:\ezchrom\methods\Vg39h03.met
Sample ID : 05I048-05 5.0ML W
Acquired : Sep 12, 2005 22:22:28
Printed : Sep 12, 2005 22:47:59
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
3	1,1,1-TFT	3.333	839859.0	24667.1	34.05
4	Bromofluorobenzene	10.833	638649.0	17021.7	37.52
G1	GASOLINE(TOTAL)		11239.0	17320.9	0.65
G2	GRO(C6-C10)		0.0	14267.4	0.00
G3	GRO(2MP-124TMB)		0.0	14336.4	0.00
G4	GRO(C5-C12)		11239.0	17000.7	0.66



4011

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client	: SES-TECH	Date Collected:	09/07/05
Project	: CAMP PENDLETON, UST SITE 14125	Date Received:	09/08/05
Batch No.	: 051048	Date Extracted:	09/12/05 22:58
Sample ID:	0004-39	Date Analyzed:	09/12/05 22:58
Lab Samp ID:	I048-06	Dilution Factor:	1
Lab File ID:	EI12021A	Matrix :	WATER
Ext Btch ID:	VA39107	% Moisture :	NA
Calib. Ref.:	EI12012A	Instrument ID :	GCT039

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	.05	.02

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	104	65-135

RL : Reporting Limit

Parameter	H-C Range
Gasoline	C6-C10

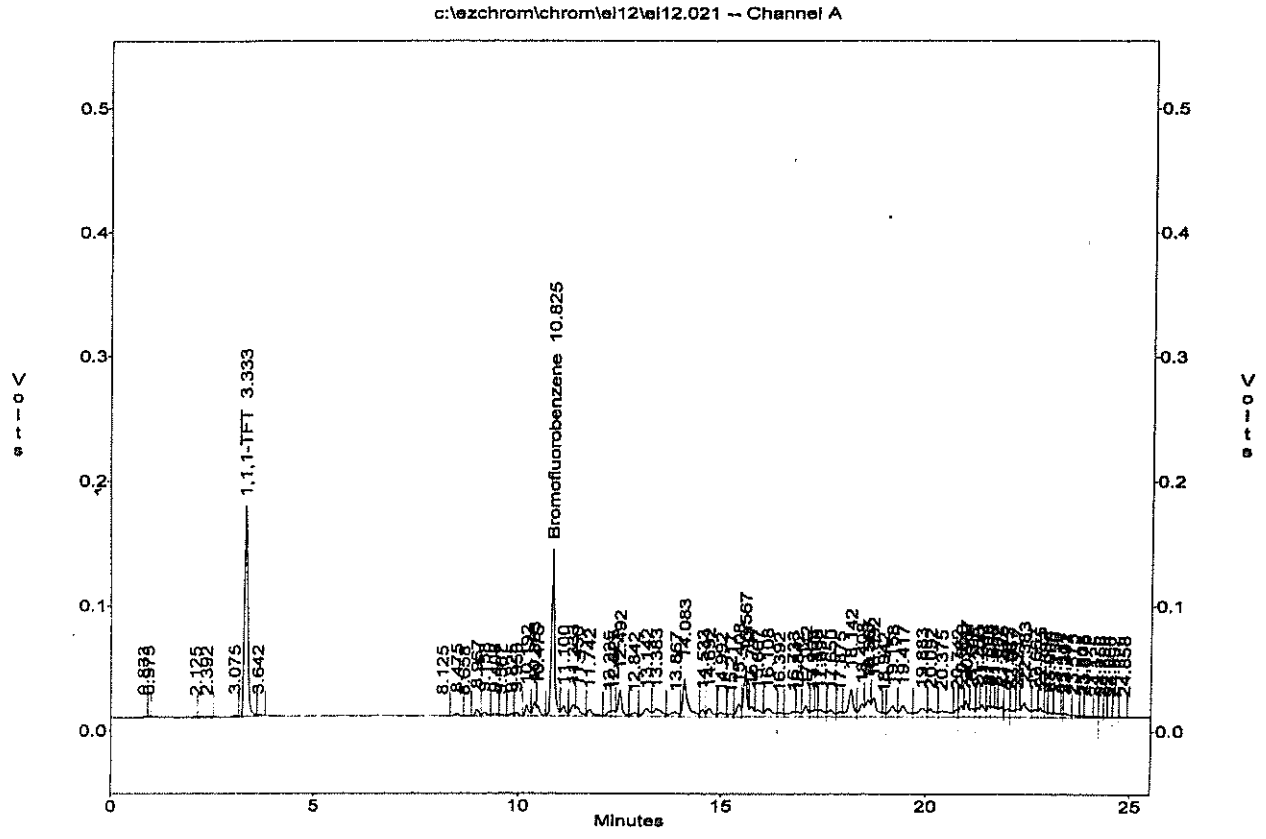
		Spike Conc	QC Limit Sample	QC Limit Blank & LCS
SURR : Bromofluorobenzene	Water	0.04 mg/L	63-135%	63-165%
	Soil	2 mg/kg	63-135%	70-150%

METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ei12\ei12.021
Method : c:\ezchrom\methods\vg39h03.met
Sample ID : 05I048-06 5.0ML W
Acquired : Sep 12, 2005 22:58:26
Printed : Sep 13, 2005 11:38:00
User : SERGIO

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
6	1,1,1-TFT	3.333	878574.0	24667.1	35.62
20	Bromofluorobenzene	10.825	706272.0	17021.7	41.49
G1	GASOLINE(TOTAL)		4189703.0	17320.9	241.89
G2	GRO(C6-C10)		713070.0	14267.4	49.98
G3	GRO(2MP-124TMB)		713070.0	14336.4	49.74
G4	GRO(C5-C12)		2660526.0	17000.7	156.50



4013

QC SUMMARIES

METHOD 5030B/8015B
TOTAL PETROLEUM HYDROCARBONS BY PURGE AND TRAP

Client : SES-TECH	Date Collected: NA
Project : CAMP PENDLETON, UST SITE 14125	Date Received: 09/12/05
Batch No. : 051048	Date Extracted: 09/12/05 12:42
Sample ID: MBLK1W	Date Analyzed: 09/12/05 12:42
Lab Samp ID: VA39107B	Dilution Factor: 1
Lab File ID: EI12004A	Matrix : WATER
Ext Btch ID: VA39107	% Moisture : NA
Calib. Ref.: EI12002A	Instrument ID : GCT039

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
GASOLINE	ND	.05	.02

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	83	65-135

RL : Reporting Limit

Parameter	H-C Range
Gasoline	C6-C10

		Spike Conc	QC Limit Sample	QC Limit Blank & LCS
SURR : Bromofluorobenzene	Water	0.04 mg/L	63-135%	63-165%
	Soil	2 mg/kg	63-135%	70-150%

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: SES-TECH
PROJECT: CAMP PENDLETON, UST SITE 14125
BATCH NO.: 051048
METHOD: METHOD 5030B/8015B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	VA39107B	VA39107L	VA39107C		
LAB FILE ID:	E112004A	E112005A	E112006A		
DATE EXTRACTED:	09/12/0512:42	09/12/0513:18	09/12/0513:55	DATE COLLECTED:	NA
DATE ANALYZED:	09/12/0512:42	09/12/0513:18	09/12/0513:55	DATE RECEIVED:	09/12/05
PREP. BATCH:	VA39107	VA39107	VA39107		
CALIB. REF:	E112002A	E112002A	E112002A		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Gasoline	ND	.5	.457	91	.5	.485	97	6	65-135	30

SURROGATE PARAMETER	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	QC LIMIT (%)
Bromofluorobenzene	.04	.0387	97	.04	.0404	101	65-135

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: SES-TECH
PROJECT: CAMP PENDLETON, UST SITE 14125
BATCH NO.: 051048
METHOD: METHOD 5030B/8015B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	0004-36				
LAB SAMP ID:	I048-03	I048-03M	I048-03S		
LAB FILE ID:	EI12009A	EI12015A	EI12016A		
DATE EXTRACTED:	09/12/0515:45	09/12/0519:22	09/12/0519:58	DATE COLLECTED:	09/07/05
DATE ANALYZED:	09/12/0515:45	09/12/0519:22	09/12/0519:58	DATE RECEIVED:	09/08/05
PREP. BATCH:	VA39107	VA39107	VA39107		
CALIB. REF:	EI12002A	EI12012A	EI12012A		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Gasoline	ND	.5	.458	92	.5	.454	91	1	65-135	30

SURROGATE PARAMETER	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	QC LIMIT (%)
Bromofluorobenzene	.04	.0377	94	.04	.0415	104	65-135

LABORATORY REPORT FOR

SES-TECH

CAMP PENDLETON, UST SITE 14125

METHOD 5030B/8021B
VOLATILE AROMATICS BY GC

SDG#: 05I048

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EMA LABORATORIES

CASE NARRATIVE

CLIENT: SES-TECH

PROJECT: CAMP PENDLETON, UST SITE 14125

SDG: 05I048

METHOD 5030B/8021B
VOLATILE AROMATICS BY GC

Six (6) water samples were received on 09/08/05 for Volatile Aromatics by GC by Method 5030/8021B in accordance with SW846 3rd Edition.

1. **Holding Time**

   Analytical holding time was met. Samples were preserved.

2. **Calibration**

   Initial calibration was six points. %RSDs were within 20%. Continuing calibrations were carried out within 12-hour intervals. Mean recoveries were within 85 – 115%.

3. **Method Blank**

   Method blank was free of contamination at half of the reporting limit.

4. **Surrogate Recovery**

   Recoveries were within QC limits.

5. **Lab Control Sample/Lab Control Sample Duplicate**

   All recoveries were within QC limits.

6. **Matrix Spike/Matrix Spike Duplicate**

   Sample I048-03 was spiked. Recoveries were within QC limits.

7. **Sample Analysis**

   Samples were analyzed according to the prescribed QC procedures. All criteria were met. All positive results above RL were confirmed by GC/FID.

LAB CHRONICLE
VOLATILE AROMATICS BY GC

Client : SES-TECH
Project : CAMP PENDLETON, UST SITE 14125

SDG NO. : 051048
Instrument ID : GCT039

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	VA39I07B	1	NA	09/12/0512:42	09/12/0512:42	EI12004B	EI12003B	VA39I07	Method Blank
LCS1W	VA39I08L	1	NA	09/12/0514:31	09/12/0514:31	EI12007B	EI12003B	VA39I07	Lab Control Sample (LCS)
LCD1W	VA39I08C	1	NA	09/12/0515:08	09/12/0515:08	EI12008B	EI12003B	VA39I07	LCS Duplicate
0004-34	I048-01	1	NA	09/12/0520:34	09/12/0520:34	EI12017B	EI12013B	VA39I07	Field Sample
0004-35	I048-02	1	NA	09/12/0521:10	09/12/0521:10	EI12018B	EI12013B	VA39I07	Field Sample
0004-36	I048-03	1	NA	09/12/0515:45	09/12/0515:45	EI12009B	EI12003B	VA39I07	Field Sample
0004-37	I048-04	1	NA	09/12/0521:46	09/12/0521:46	EI12019B	EI12013B	VA39I07	Field Sample
0004-38	I048-05	1	NA	09/12/0522:22	09/12/0522:22	EI12020B	EI12013B	VA39I07	Field Sample
0004-39	I048-06	1	NA	09/12/0522:58	09/12/0522:58	EI12021B	EI12013B	VA39I07	Field Sample
0004-36MS	I048-03M	1	NA	09/12/0516:21	09/12/0516:21	EI12010B	EI12003B	VA39I07	Matrix Spike Sample (MS)
0004-36MSD	I048-03S	1	NA	09/12/0516:58	09/12/0516:58	EI12011B	EI12003B	VA39I07	MS Duplicate (MSD)

FN - Filename
% Moist - Percent Moisture

SAMPLE RESULTS

EPA METHOD 5030B/8021B
VOLATILE AROMATICS BY GC

Client : SES-TECH	Date Collected: 09/07/05
Project : CAMP PENDLETON, UST SITE 14125	Date Received: 09/08/05
Batch No. : 051048	Date Extracted: 09/12/05 20:34
Sample ID: 0004-34	Date Analyzed: 09/12/05 20:34
Lab Samp ID: 1048-01	Dilution Factor: 1
Lab File ID: EI120178	Matrix : WATER
Ext Btch ID: VA39107	% Moisture : NA
Calib. Ref.: EI120138	Instrument ID : GCT039

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
BENZENE	ND	.5	.1
TOLUENE	ND	.5	.1
ETHYLBENZENE	ND	.5	.1
XYLENES	ND	1.5	.3
MTBE	ND	1	.5

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	119	75-125
1,1,1-TFT	122	75-125

RL: Reporting Limit

EPA METHOD 5030B/8021B
VOLATILE AROMATICS BY GC

Client : SES-TECH	Date Collected: 09/07/05
Project : CAMP PENDLETON, UST SITE 14125	Date Received: 09/08/05
Batch No. : 051048	Date Extracted: 09/12/05 21:10
Sample ID: 0004-35	Date Analyzed: 09/12/05 21:10
Lab Samp ID: I048-02	Dilution Factor: 1
Lab File ID: EI120188	Matrix : WATER
Ext Btch ID: VA39107	% Moisture : NA
Calib. Ref.: EI12013B	Instrument ID : GCT039

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
BENZENE	ND	.5	.1
TOLUENE	ND	.5	.1
ETHYLBENZENE	ND	.5	.1
XYLENES	ND	1.5	.3
MTBE	ND	1	.5

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	115	75-125
1,1,1-TFT	120	75-125

RL: Reporting Limit

EPA METHOD 5030B/8021B
VOLATILE AROMATICS BY GC

Client	: SES-TECH	Date Collected:	09/07/05
Project	: CAMP PENDLETON, UST SITE 14125	Date Received:	09/08/05
Batch No.	: 051048	Date Extracted:	09/12/05 15:45
Sample ID	: 0004-36	Date Analyzed:	09/12/05 15:45
Lab Samp ID	: I048-03	Dilution Factor:	1
Lab File ID	: EI120098	Matrix :	WATER
Ext Btch ID	: VA39107	% Moisture :	NA
Calib. Ref.	: EI120038	Instrument ID :	GCT039

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
BENZENE	ND	.5	.1
TOLUENE	ND	.5	.1
ETHYLBENZENE	ND	.5	.1
XYLENES	ND	1.5	.3
MTBE	ND	1	.5

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	104	75-125
1,1,1-TFT	114	75-125

RL: Reporting Limit

EPA METHOD 5030B/8021B
VOLATILE AROMATICS BY GC

Client : SES-TECH	Date Collected: 09/07/05
Project : CAMP PENDLETON, UST SITE 14125	Date Received: 09/08/05
Batch No. : 051048	Date Extracted: 09/12/05 21:46
Sample ID: 0004-37	Date Analyzed: 09/12/05 21:46
Lab Samp ID: 1048-04	Dilution Factor: 1
Lab File ID: EI12019B	Matrix : WATER
Ext Btch ID: VA39107	% Moisture : NA
Calib. Ref.: EI12013B	Instrument ID : GCT039

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
BENZENE	ND	.5	.1
TOLUENE	ND	.5	.1
ETHYLBENZENE	ND	.5	.1
XYLENES	ND	1.5	.3
MTBE	ND	1	.5

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	116	75-125
1,1,1-TFT	118	75-125

RL: Reporting Limit

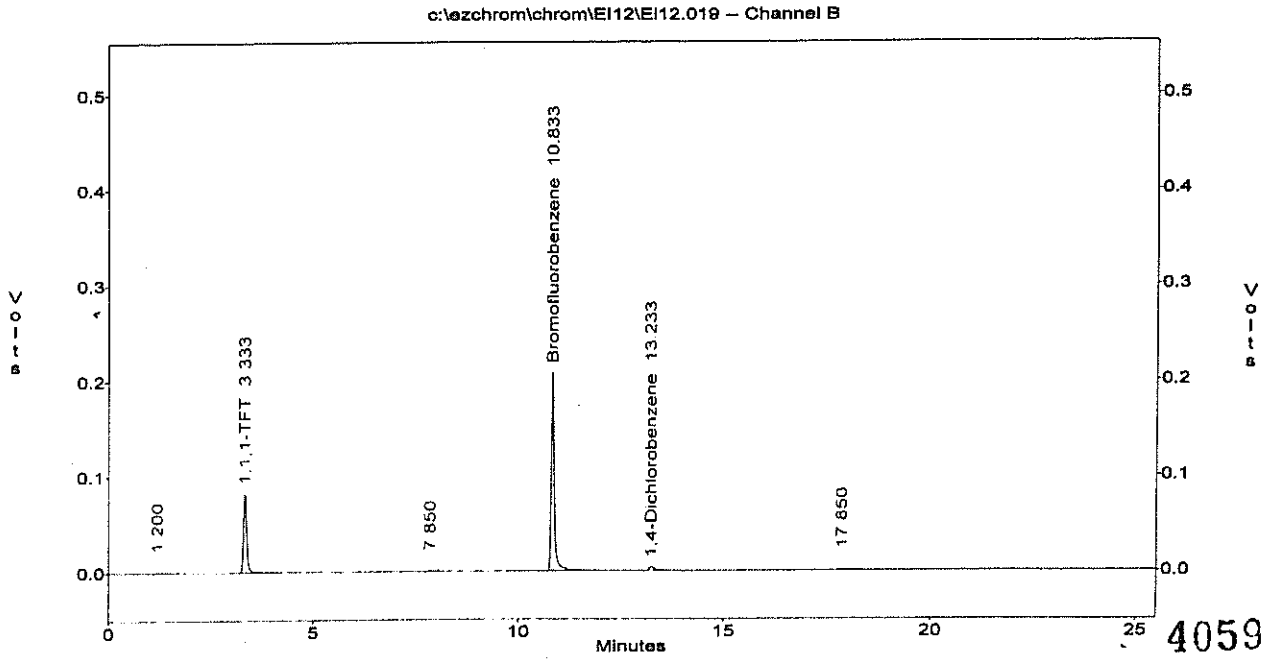
4053

METHOD 8021 by PID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\EI12\Ei12.019
Method : c:\ezchrom\methods\Vg39h03.met
Sample ID : 05I048-04 5.0ML W
Acquired : Sep 12, 2005 21:46:42
Printed : Sep 12, 2005 22:12:14
User : SERGIO

Channel B Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
--	MTBE	1.458	0.0	0.0	0.00
--	Benzene	2.375	0.0	0.0	0.00
2	1,1,1-TFT	3.333	440597.0	9297.3	47.39
--	Toluene	5.042	0.0	0.0	0.00
--	Chlorobenzene	8.342	0.0	0.0	0.00
--	Ethylbenzene	8.925	0.0	0.0	0.00
--	M/P-Xylenes	9.192	0.0	0.0	0.00
--	O-Xylene	9.908	0.0	0.0	0.00
4	Bromofluorobenzene	10.833	1082471.0	23296.3	46.47
--	1,3-Dichlorobenzene	13.133	0.0	0.0	0.00
5	1,4-Dichlorobenzene	13.233	33284.0	25379.4	1.31
--	1,2-Dichlorobenzene	13.975	0.0	0.0	0.00



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EPA METHOD 5030B/8021B
VOLATILE AROMATICS BY GC

Client	: SES-TECH	Date Collected:	09/07/05
Project	: CAMP PENDLETON, UST SITE 14125	Date Received:	09/08/05
Batch No.	: 051048	Date Extracted:	09/12/05 22:22
Sample ID	: 0004-38	Date Analyzed:	09/12/05 22:22
Lab Samp ID	: I048-05	Dilution Factor:	1
Lab File ID	: EI12020B	Matrix	: WATER
Ext Btch ID	: VA39107	% Moisture	: NA
Calib. Ref.	: EI12013B	Instrument ID	: GCT039

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
BENZENE	ND	.5	.1
TOLUENE	ND	.5	.1
ETHYLBENZENE	ND	.5	.1
XYLENES	ND	1.5	.3
MTBE	ND	1	.5

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	112	75-125
1,1,1-TFT	113	75-125

RL: Reporting Limit

EPA METHOD 5030B/8021B
VOLATILE AROMATICS BY GC

Client : SES-TECH	Date Collected: 09/07/05
Project : CAMP PENDLETON, UST SITE 14125	Date Received: 09/08/05
Batch No. : 051048	Date Extracted: 09/12/05 22:58
Sample ID: 0004-39	Date Analyzed: 09/12/05 22:58
Lab Samp ID: I048-06	Dilution Factor: 1
Lab File ID: EI120218	Matrix : WATER
Ext Btch ID: VA39I07	% Moisture : NA
Calib. Ref.: EI120138	Instrument ID : GCT039

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
BENZENE	1.9	.5	.1
TOLUENE	ND	.5	.1
ETHYLBENZENE	.92	.5	.1
XYLENES	1.1J	1.5	.3
MTBE	ND	1	.5

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	118	75-125
1,1,1-TFT	120	75-125

RL: Reporting Limit

QC SUMMARIES

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EMA LABORATORIES

EPA METHOD 5030B/8021B
VOLATILE AROMATICS BY GC

Client	: SES-TECH	Date Collected:	NA
Project	: CAMP PENDLETON, UST SITE 14125	Date Received:	09/12/05
Batch No.	: 051048	Date Extracted:	09/12/05 12:42
Sample ID:	MBLK1W	Date Analyzed:	09/12/05 12:42
Lab Samp ID:	VA39107B	Dilution Factor:	1
Lab File ID:	EI12004B	Matrix :	WATER
Ext Btch ID:	VA39107	% Moisture :	NA
Calib. Ref.:	EI12003B	Instrument ID :	GCT039

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
BENZENE	ND	.5	.1
TOLUENE	ND	.5	.1
ETHYLBENZENE	ND	.5	.1
XYLENES	ND	1.5	.3
MTBE	ND	1	.5

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	102	75-125
1,1,1-TFT	117	75-125

RL: Reporting Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: SES-TECH
PROJECT: CAMP PENDLETON, UST SITE 14125
BATCH NO.: 051048
METHOD: EPA METHOD 5030B/8021B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	VA39107B	VA39108L	VA39108C		
LAB FILE ID:	EI120048	EI120078	EI120088		
DATE EXTRACTED:	09/12/0512:42	09/12/0514:31	09/12/0515:08	DATE COLLECTED:	NA
DATE ANALYZED:	09/12/0512:42	09/12/0514:31	09/12/0515:08	DATE RECEIVED:	09/12/05
PREP. BATCH:	VA39107	VA39107	VA39107		
CALIB. REF:	EI12003B	EI12003B	EI12003B		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Benzene	ND	40	42.9	107	40	43.5	109	1	75-125	20
Toluene	ND	40	41.1	103	40	42.1	105	3	75-125	20
Ethylbenzene	ND	40	43.7	109	40	44.9	112	3	75-125	20
Xylenes	ND	120	128	107	120	132	110	3	75-125	20
MTBE	ND	40	38.6	97	40	35.8	90	8	75-125	20

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
Bromofluorobenzene	40	39.4	98	40	40.7	102	75-125
1,1,1-TFT	40	44.2	110	40	43.9	110	75-125

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: SES-TECH
PROJECT: CAMP PENDLETON, UST SITE 14125
BATCH NO.: 051048
METHOD: EPA METHOD 5030B/8021B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	0004-36				
LAB SAMP ID:	I048-03	I048-03M	I048-03S		
LAB FILE ID:	EI12009B	EI12010B	EI12011B		
DATE EXTRACTED:	09/12/0515:45	09/12/0516:21	09/12/0516:58	DATE COLLECTED:	09/07/05
DATE ANALYZED:	09/12/0515:45	09/12/0516:21	09/12/0516:58	DATE RECEIVED:	09/08/05
PREP. BATCH:	VA39107	VA39107	VA39107		
CALIB. REF:	EI12003B	EI12003B	EI12003B		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	SPIKE AMT (ug/L)	MSD RSLT (ug/L)	MSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Benzene	ND	40	42.5	106	40	41.8	105	2	75-125	20
Toluene	ND	40	41.5	104	40	40.7	102	2	75-125	20
Ethylbenzene	ND	40	44.8	112	40	43.5	109	3	75-125	20
Xylenes	ND	120	132	110	120	129	107	2	75-125	20
MTBE	ND	40	35.8	90	40	34.9	87	3	75-125	20

SURROGATE PARAMETER	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	SPIKE AMT (ug/L)	MSD RSLT (ug/L)	MSD % REC	QC LIMIT (%)
Bromofluorobenzene	40	40.6	101	40	39.5	99	75-125
1,1,1-TFT	40	43.9	110	40	42.4	106	75-125

LABORATORY REPORT FOR

SES-TECH

CAMP PENDLETON, UST SITE 14125

METHOD 3520C/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

SDG#: 05I048

5000

CASE NARRATIVE

CLIENT: SES-TECH

PROJECT: CAMP PENDLETON, UST SITE 14125

SDG: 05I048

METHOD 3520C/M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Five (5) water samples were received on 09/08/05 for Total Petroleum Hydrocarbons by Extraction analysis by Method 3520C/M8015 in accordance with SW846 3RD Edition.

1. **Holding Time**

   Analytical holding time was met. Extraction was performed on 09/12/05 and completed on 09/13/05.

2. **Calibration**

   Initial calibration was seven points for Diesel. %RSDs were within 20%. Continuing calibrations were carried out at 12-hour intervals and all recoveries were within 85-115%.

3. **Method Blank**

   Method blank was free of contamination at half of the reporting limit.

4. **Surrogate Recovery**

   Surrogate recovery in sample I048-06 was out of QC limit due to matrix interference; however, Bromobenzene, an alternate surrogate met the QC criteria. All others met the QC criteria.

5. **Lab Control Sample/Lab Control Sample Duplicate**

   All recoveries were within QC limits.

6. **Matrix Spike/Matrix Spike Duplicate**

   Sample I048-03 was spiked. Recoveries were within QC limits.

7. **Sample Analysis**

   Samples were analyzed according to the prescribed QC procedures. All criteria were met with the aforementioned exception. Sample results were quantitated from C10 to C24 using Diesel (C10-C24) calibration factor.

   Sample I048-06 displayed a motor oil-like fuel pattern.

LAB CHRONICLE
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : SES-TECH
Project : CAMP PENDLETON, UST SITE 14125

SDG NO. : 051048
Instrument ID : GCT050

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	DSI013WB	1	NA	09/13/0514:40	09/12/0513:30	TI13004A	TI13002A	DSI013W	Method Blank
LCS1W	DSI013WL	1	NA	09/13/0515:22	09/12/0513:30	TI13005A	TI13002A	DSI013W	Lab Control Sample (LCS)
LCD1W	DSI013WC	1	NA	09/13/0516:04	09/12/0513:30	TI13006A	TI13002A	DSI013W	LCS Duplicate
0004-35	1048-02	.96	NA	09/14/0504:39	09/12/0513:30	TI13024A	TI13014A	DSI013W	Field Sample
0004-36	1048-03	1	NA	09/14/0507:26	09/12/0513:30	TI13028A	TI13027A	DSI013W	Field Sample
0004-37	1048-04	1	NA	09/14/0505:21	09/12/0513:30	TI13025A	TI13014A	DSI013W	Field Sample
0004-38	1048-05	.94	NA	09/14/0509:32	09/12/0513:30	TI13031A	TI13027A	DSI013W	Field Sample
0004-39	1048-06	.97	NA	09/14/0510:56	09/12/0513:30	TI13033A	TI13027A	DSI013W	Field Sample
0004-36MS	1048-03M	.94	NA	09/14/0508:08	09/12/0513:30	TI13029A	TI13027A	DSI013W	Matrix Spike Sample (MS)
0004-36MSD	1048-03S	.96	NA	09/14/0508:50	09/12/0513:30	TI13030A	TI13027A	DSI013W	MS Duplicate (MSD)

FN - Filename
% Moist - Percent Moisture

EMA LABORATORIES

SAMPLE RESULTS

5003

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : SES-TECH	Date Collected: 09/07/05
Project : CAMP PENDLETON, UST SITE 14125	Date Received: 09/08/05
Batch No. : 051048	Date Extracted: 09/12/05 13:30
Sample ID: 0004-35	Date Analyzed: 09/14/05 04:39
Lab Samp ID: 1048-02	Dilution Factor: .96
Lab File ID: TI13024A	Matrix : WATER
Ext Btch ID: DSI013W	% Moisture : NA
Calib. Ref.: TI13014A	Instrument ID : GCTO5O

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
DIESEL	ND	.096	.024

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
HEXACOSANE	106	65-135

RL : Reporting Limit

Parameter	H-C Range
Diesel	C10-C24

			Spike	QC Limit	QC Limit
SURR	: Hexacosane	Water	0.25 mg/L	63-165%	65-135%
		Soil	25 mg/kg	54-176%	60-160%

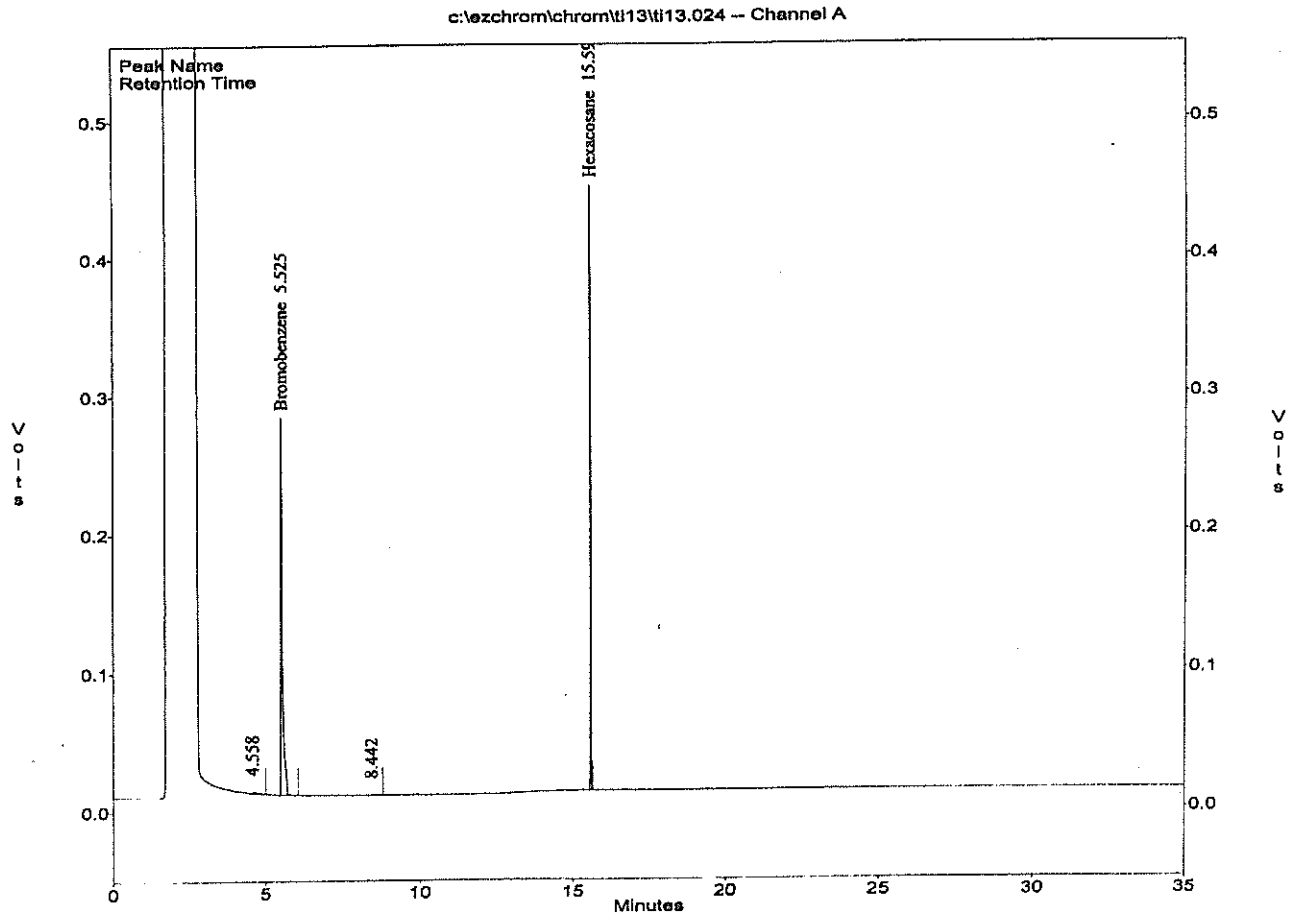
5004

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ti13\ti13.024
Method : c:\ezchrom\methods\ds50i01.met
Sample ID : 05I048-02
Acquired : Sep 14, 2005 04:39:18
Printed : Sep 14, 2005 09:45:48
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
2	Bromobenzene	5.525	1057517	13141.1	80.5
4	Hexacosane	15.592	764972	28776.7	26.6
G1	Diesel(TOTAL)		15349	23931.3	0.6
G2	Diesel(C10-C24)		2999	23756.5	0.1
G3	Diesel(C10-C28)		2999	23793.6	0.1



5005

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : SES-TECH	Date Collected: 09/07/05
Project : CAMP PENDLETON, UST SITE 14125	Date Received: 09/08/05
Batch No. : 051048	Date Extracted: 09/12/05 13:30
Sample ID: 0004-36	Date Analyzed: 09/14/05 07:26
Lab Samp ID: 1048-03	Dilution Factor: 1
Lab File ID: TI13028A	Matrix : WATER
Ext Btch ID: DSI013W	% Moisture : NA
Calib. Ref.: TI13027A	Instrument ID : GCT050

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
DIESEL	ND	.1	.025

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
HEXACOSANE	101	65-135

RL : Reporting Limit

Parameter	H-C Range
Diesel	C10-C24

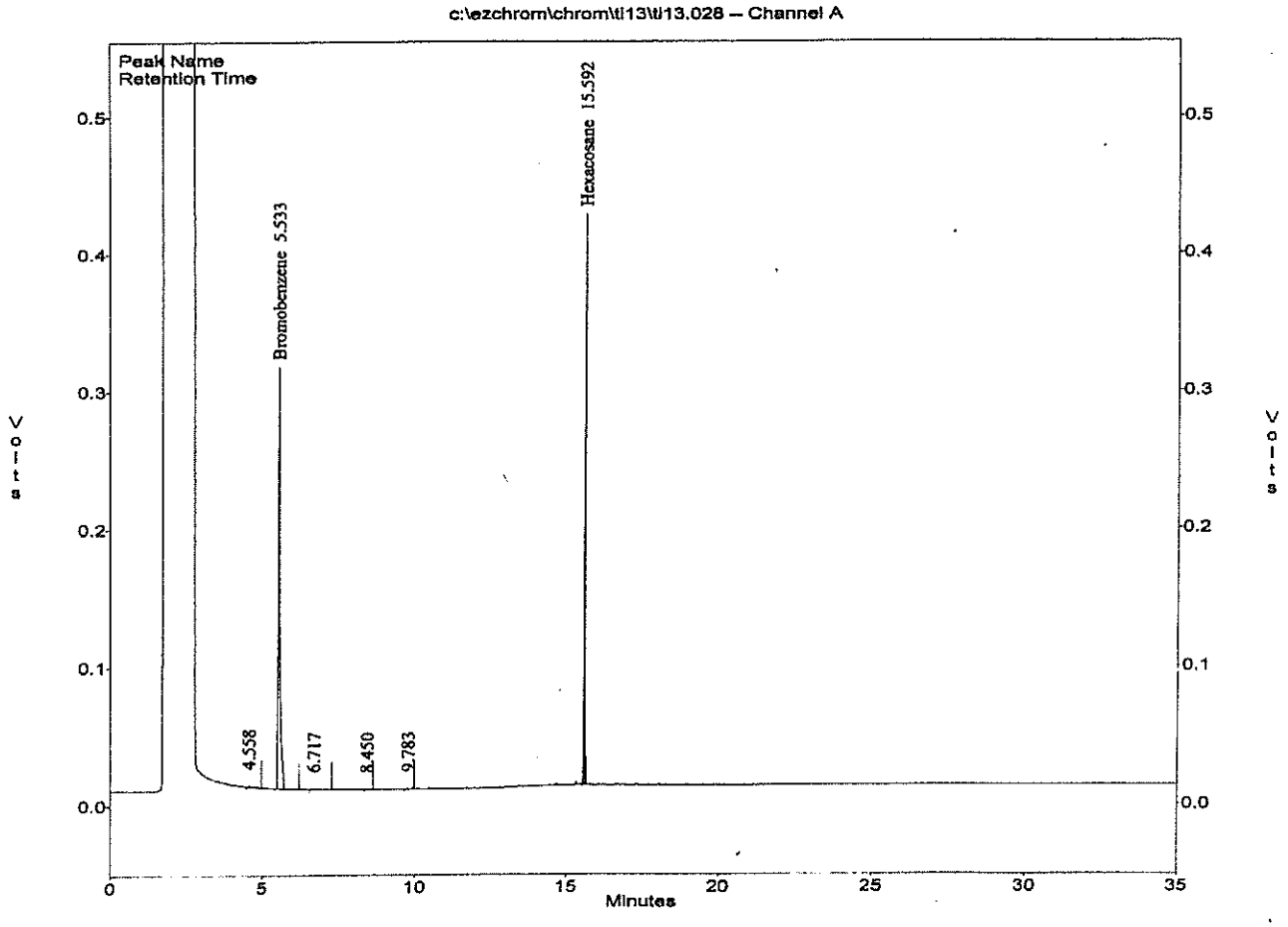
			Spike	QC Limit	QC Limit
SURR : Hexacosane		Water	0.25 mg/L	63-165%	65-135%
		Soil	25 mg/kg	54-176%	60-160%

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ti13\ti13.028
Method : c:\ezchrom\methods\ds50i01.met
Sample ID : 05I048-03
Acquired : Sep 14, 2005 07:26:33
Printed : Sep 14, 2005 09:48:12
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
2	Bromobenzene	5.533	1198636	13141.1	91.2
6	Hexacosane	15.592	727611	28776.7	25.3
G1	Diesel(TOTAL)		25193	23931.3	1.1
G2	Diesel(C10-C24)		12052	23756.5	0.5
G3	Diesel(C10-C28)		12052	23793.6	0.5



5007

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : SES-TECH	Date Collected: 09/07/05
Project : CAMP PENDLETON, UST SITE 14125	Date Received: 09/08/05
Batch No. : 051048	Date Extracted: 09/12/05 13:30
Sample ID: 0004-37	Date Analyzed: 09/14/05 05:21
Lab Samp ID: 1048-04	Dilution Factor: 1
Lab File ID: TI13025A	Matrix : WATER
Ext Btch ID: DSI013W	% Moisture : NA
Calib. Ref.: TI13014A	Instrument ID : GCT050

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
DIESEL	ND	.1	.025

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
HEXACOSANE	105	65-135

RL : Reporting Limit

Parameter	H-C Range
Diesel	C10-C24

			Spike	QC Limit	QC Limit
SURR : Hexacosane		Water	0.25 mg/L	63-165%	65-135%
		Soil	25 mg/kg	54-176%	60-160%

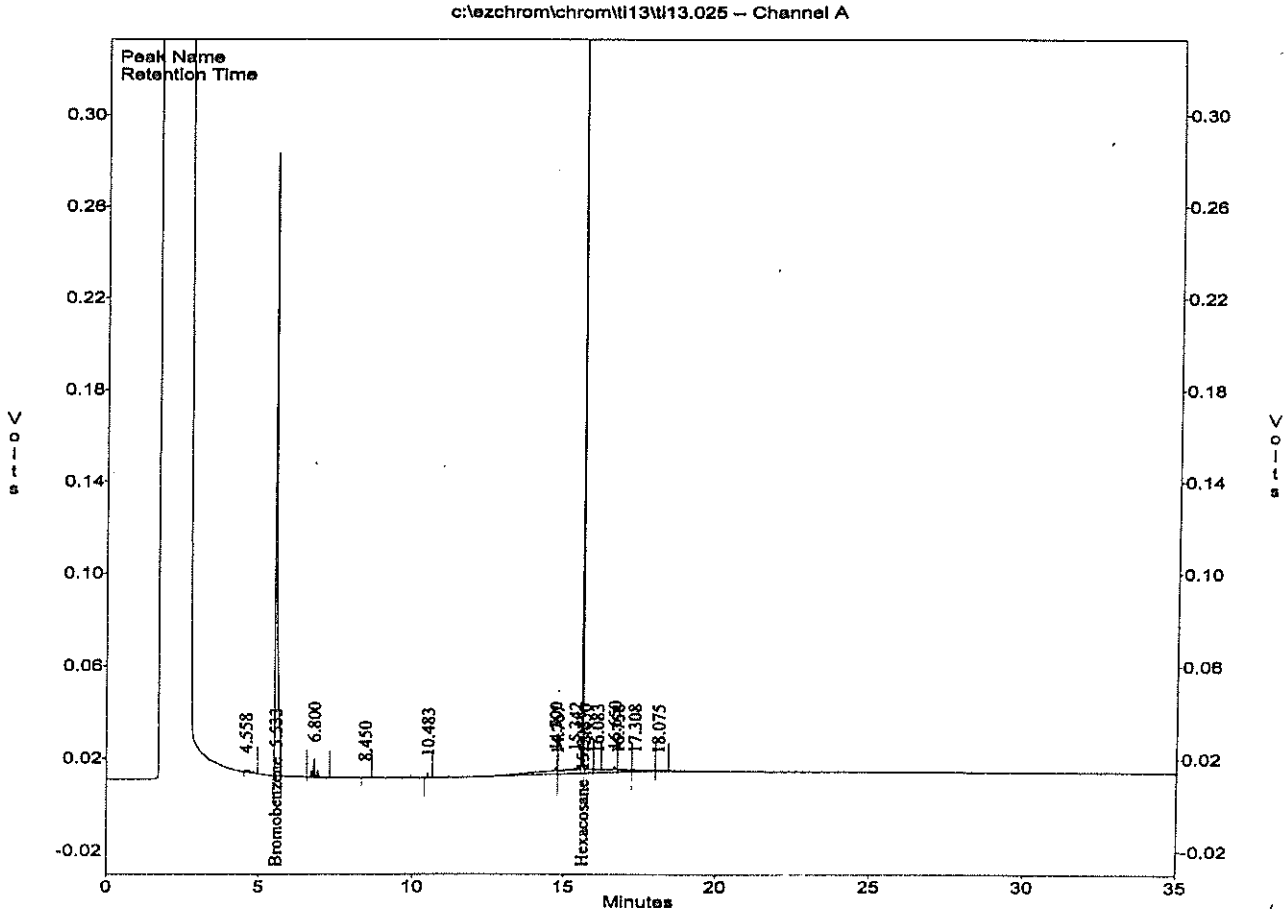
5008

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ti13\ti13.025
Method : c:\ezchrom\methods\ds50i01.met
Sample ID : 05I048-04
Acquired : Sep 14, 2005 05:21:09
Printed : Sep 14, 2005 09:53:10
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
2	Bromobenzene	5.533	1071900	13141.1	81.6
9	Hexacosane	15.592	756606	28776.7	26.3
G1	Diesel(TOTAL)		374344	23931.3	15.6
G2	Diesel(C10-C24)		160128	23756.5	6.7
G3	Diesel(C10-C28)		304217	23793.6	12.8



5009

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: SES-TECH	Date Collected:	09/07/05
Project	: CAMP PENDLETON, UST SITE 14125	Date Received:	09/08/05
Batch No.	: 051048	Date Extracted:	09/12/05 13:30
Sample ID:	0004-38	Date Analyzed:	09/14/05 09:32
Lab Samp ID:	1048-05	Dilution Factor:	.94
Lab File ID:	TI13031A	Matrix :	WATER
Ext Btch ID:	DSI013W	% Moisture :	NA
Calib. Ref.:	TI13027A	Instrument ID :	GCT050

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
DIESEL	ND	.094	.024

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
HEXACOSANE	108	65-135

RL : Reporting Limit
Parameter H-C Range
Diesel C10-C24

			Spike	QC Limit	QC Limit
SURR	: Hexacosane	Water	0.25 mg/L	63-165%	65-135%
		Soil	25 mg/kg	54-176%	60-160%

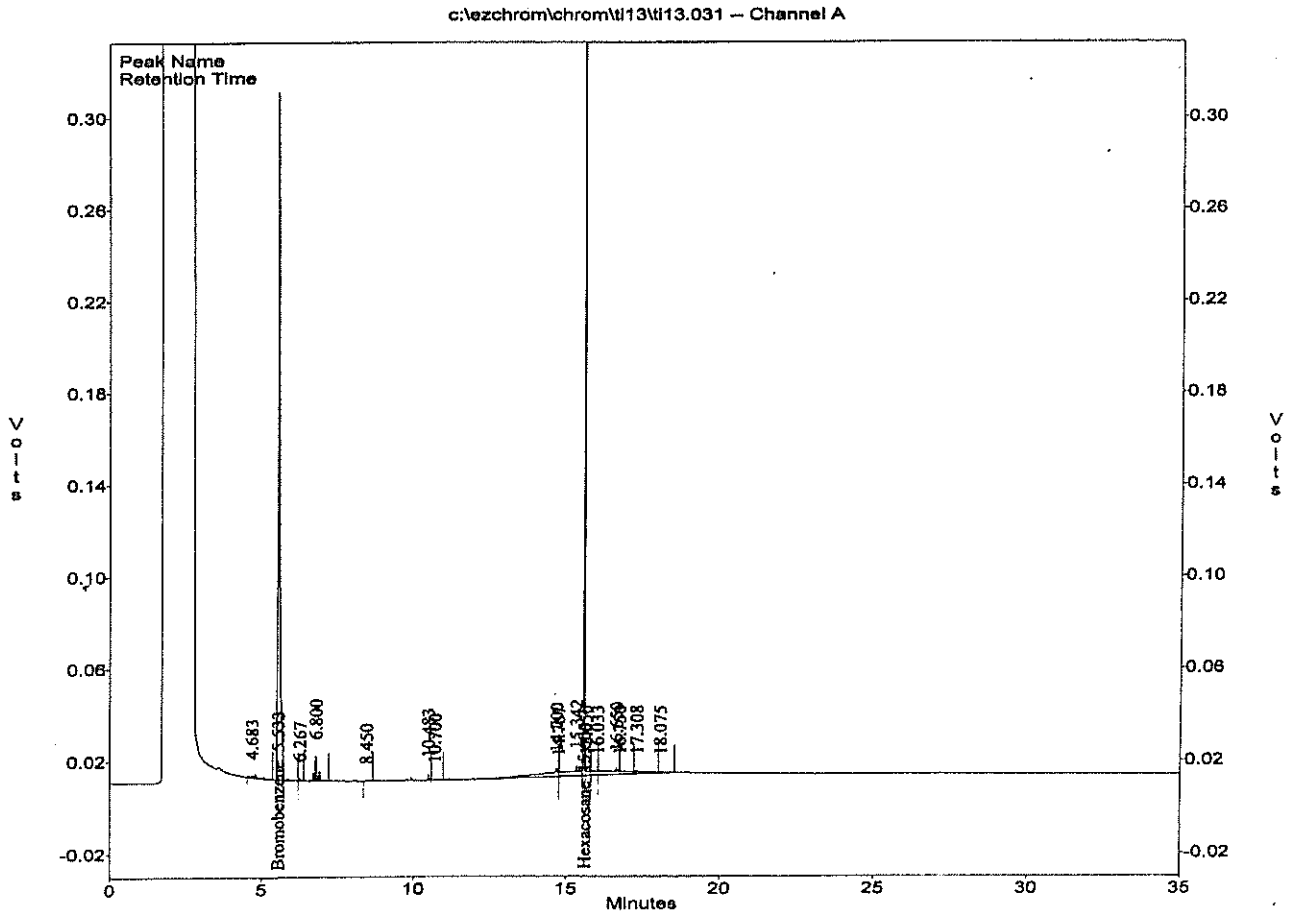
5010

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ti13\ti13.031
Method : c:\ezchrom\methods\ds50i01.met
Sample ID : 05I048-05
Acquired : Sep 14, 2005 09:32:17
Printed : Sep 14, 2005 10:08:02
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
2	Bromobenzene	5.533	1150309	13141.1	87.5
11	Hexacosane	15.600	779689	28776.7	27.1
G1	Diesel(TOTAL)		447194	23931.3	18.7
G2	Diesel(C10-C24)		177153	23756.5	7.5
G3	Diesel(C10-C28)		382975	23793.6	16.1



05011
09.14.05

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : SES-TECH	Date Collected: 09/07/05
Project : CAMP PENDLETON, UST SITE 14125	Date Received: 09/08/05
Batch No. : 051048	Date Extracted: 09/12/05 13:30
Sample ID: 0004-39	Date Analyzed: 09/14/05 10:56
Lab Samp ID: 1048-06	Dilution Factor: .97
Lab File ID: TI13033A	Matrix : WATER
Ext Btch ID: DSI013W	% Moisture : NA
Calib. Ref.: TI13027A	Instrument ID : GCT050

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
DIESEL	13	.097	.024

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
HEXACOSANE	153*	65-135

RL : Reporting Limit

Parameter	H-C Range
Diesel	C10-C24

			Spike	QC Limit	QC Limit
SURR	: Hexacosane	Water	0.25 mg/L	63-165%	65-135%
		Soil	25 mg/kg	54-176%	60-160%

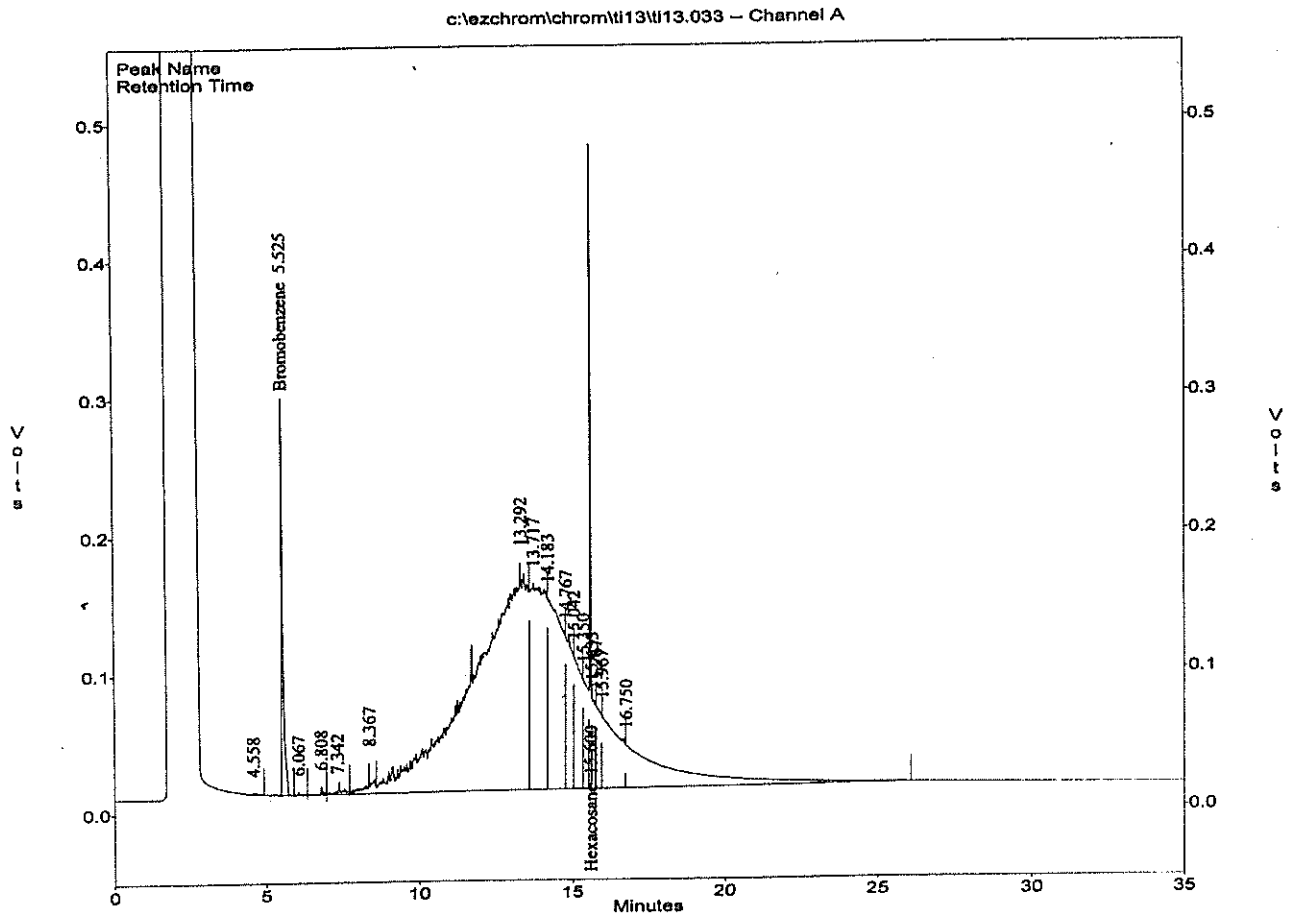
* : Out of QC limit due to matrix interference

METHOD 8015 by GC/FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ti13\ti13.033
Method : c:\ezchrom\methods\ds50i01.met
Sample ID : 05I048-06
Acquired : Sep 14, 2005 10:56:00
Printed : Sep 14, 2005 12:23:35
User : JANE

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(ppm)
2	Bromobenzene	5.525	1128177	13141.1	85.9
13	Hexacosane	15.600	1099513	28776.7	38.2
G1	Diesel(TOTAL)		40030924	23931.3	1672.7
G2	Diesel(C10-C24)		31408420	23756.5	1322.1
G3	Diesel(C10-C28)		40003164	23793.6	1681.3



05013
09/14/05

QC SUMMARIES

EMA LABORATORIES

METHOD 3520C/8015B
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client	: SES-TECH	Date Collected:	NA
Project	: CAMP PENDLETON, UST SITE 14125	Date Received:	09/12/05
Batch No.	: 051048	Date Extracted:	09/12/05 13:30
Sample ID:	MBLK1W	Date Analyzed:	09/13/05 14:40
Lab Samp ID:	DSI013WB	Dilution Factor:	1
Lab File ID:	TI13004A	Matrix :	WATER
Ext Btch ID:	DSI013W	% Moisture :	NA
Calib. Ref.:	TI13002A	Instrument ID :	GCT050

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
DIESEL	ND	.1	.025

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
HEXACOSANE	102	65-135

RL : Reporting Limit

Parameter	H-C Range
Diesel	C10-C24

			Spike	QC Limit	QC Limit
SURR :	Hexacosane	Water	0.25 mg/L	63-165%	65-135%
		Soil	25 mg/kg	54-176%	60-160%

5015

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: SES-TECH
PROJECT: CAMP PENDLETON, UST SITE 14125
BATCH NO.: 051048
METHOD: METHOD 3520C/8015B

MATRIX: WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1
SAMPLE ID:	MBLK1W		
LAB SAMP ID:	DSI013WB	DSI013WL	DSI013WC
LAB FILE ID:	TI13004A	TI13005A	TI13006A
DATE EXTRACTED:	09/12/0513:30	09/12/0513:30	09/12/0513:30
DATE ANALYZED:	09/13/0514:40	09/13/0515:22	09/13/0516:04
PREP. BATCH:	DSI013W	DSI013W	DSI013W
CALIB. REF:	TI13002A	TI13002A	TI13002A

DATE COLLECTED: NA
DATE RECEIVED: 09/12/05

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Diesel	ND	5	5.27	105	5	5.14	103	3	65-135	30

SURROGATE PARAMETER	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	QC LIMIT (%)
Hexacosane	.25	.258	103	.25	.259	104	65-135

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: SES-TECH
PROJECT: CAMP PENDLETON, UST SITE 14125
BATCH NO.: 051048
METHOD: METHOD 3520C/8015B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	.94	.96		
SAMPLE ID:	0004-36				
LAB SAMP ID:	I048-03	I048-03M	I048-03S		
LAB FILE ID:	TI13028A	TI13029A	TI13030A		
DATE EXTRACTED:	09/12/0513:30	09/12/0513:30	09/12/0513:30	DATE COLLECTED:	09/07/05
DATE ANALYZED:	09/14/0507:26	09/14/0508:08	09/14/0508:50	DATE RECEIVED:	09/08/05
PREP. BATCH:	DSI013W	DSI013W	DSI013W		
CALIB. REF:	TI13027A	TI13027A	TI13027A		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Diesel	ND	4.7	4.49	96	4.8	4.74	99	3	65-135	30

SURROGATE PARAMETER	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	QC LIMIT (%)
Hexacosane	.235	.248	105	.24	.246	102	65-135

5017